VOLUME XLIX
NUMBER THREE

THE NATIONAL GEOGRAPHIC MAGAZINE

MARCH, 1926

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TO carry out the purposes for which it was founded thirty-eight years ago, the National Geographic Society publishes this Magazine. All receipts are invested in the Magazine itself or expended directly to promote geographic knowledge.

ARTICLES and photographs are desired. For material which the Magazine can use, generous remuneration is made. Contributions should be accompanied by an addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resulting given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

AT an expense of over $50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole.

NOT long ago The Society granted $25,000, and in addition $75,000 was given by individual members to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people.

THE Society is conducting extensive explorations and excavations in northwestern New Mexico, which was one of the most densely populated areas in North America before Columbus came, a region where prehistoric peoples lived in vast communal dwellings and whose customs, ceremonies, and name have been engulfed in an oblivion.

THE Society also is maintaining expeditions in the unknown area adjacent to the San Juan River in southeastern Utah, and in Yunnan, Kweichow, and Kansu, China—all regions virgin to scientific study.

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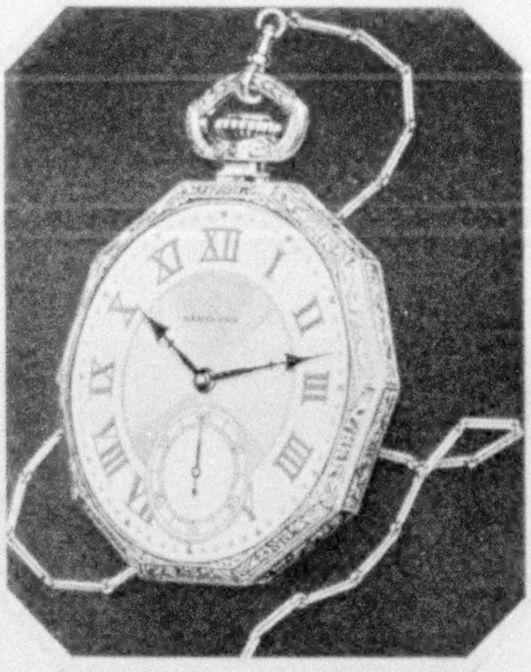

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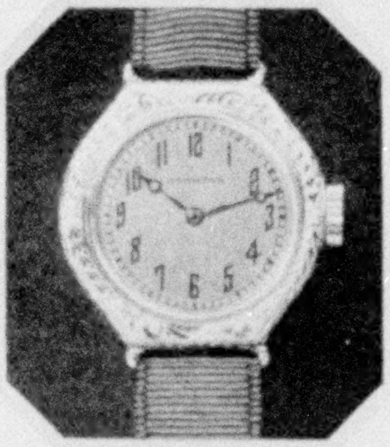

At left—the new Tonneau model wrist watch for women. Hamilton Wrist Watches come in silk ribbon models and strap models. Cases are plain or engraved in white or green gold, 14k or filled. Prices $48 and $60.

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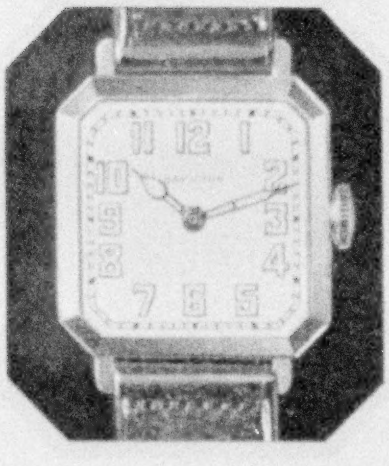

The Hamilton Strap Watch for men. Square model. Green or white gold, 14k or gold filled. Leather strap and luminous dial. Prices $55 and $85.

THE conductor and the engineer of a crack train must know the exact time every mile of the way. Absolutely accurate time is also essential to the dispatcher and the signalman. In fact, every railroad man from switchman to high-salaried executive works continually by a watch of unfailing accuracy. What is the watch these men select?

For over twenty years on almost every road in the country there has been one watch that railroad men depend on. This watch is the Hamilton. It keeps thousands of trains running on time every day. The hands of this watch direct the speed of the 20th Century Limited, the California Limited, the Broadway Limited, and the Olympian. It times the runs of the lowly locals and plodding freights.

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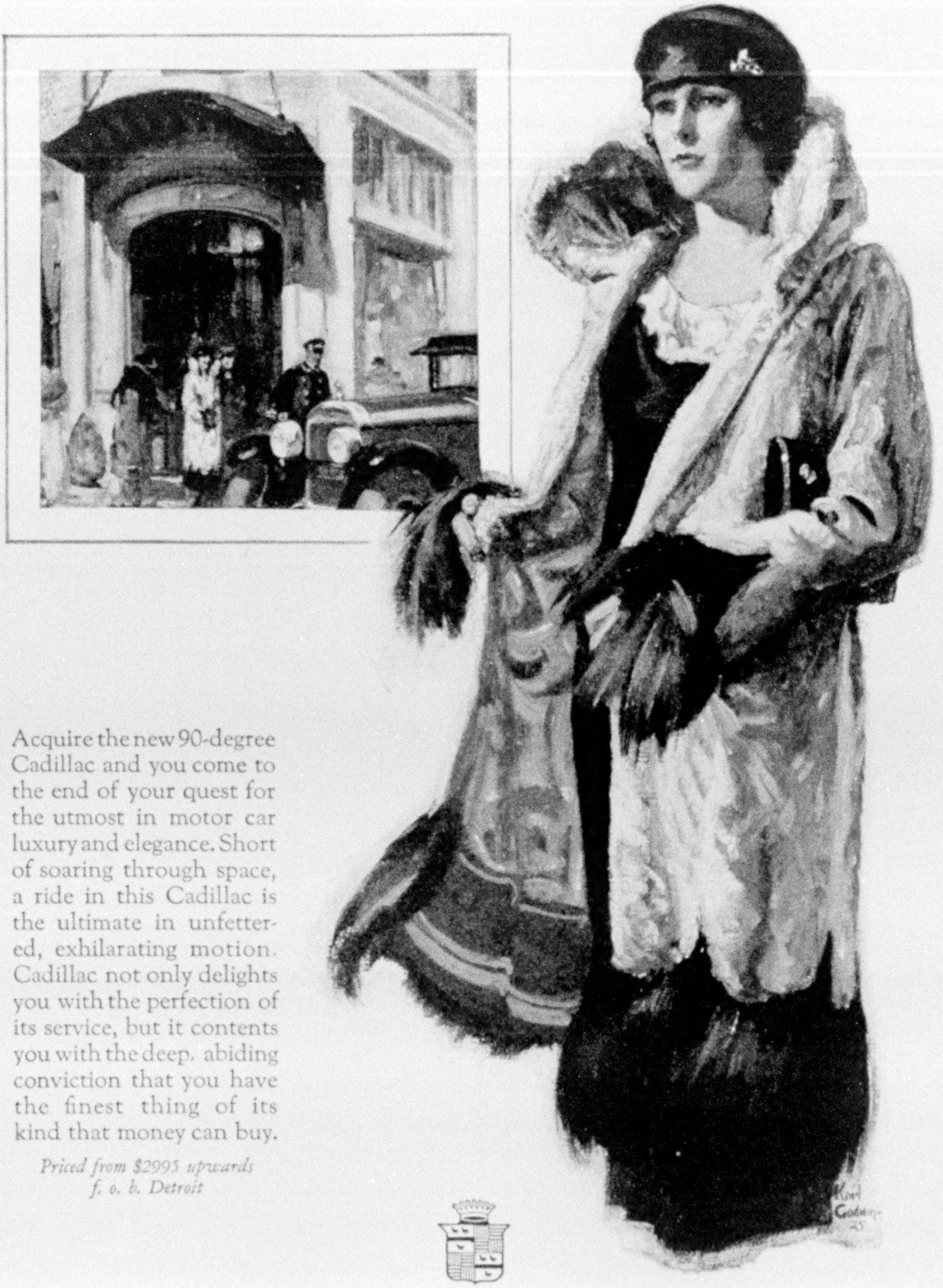
The Watch of Railroad Accuracy



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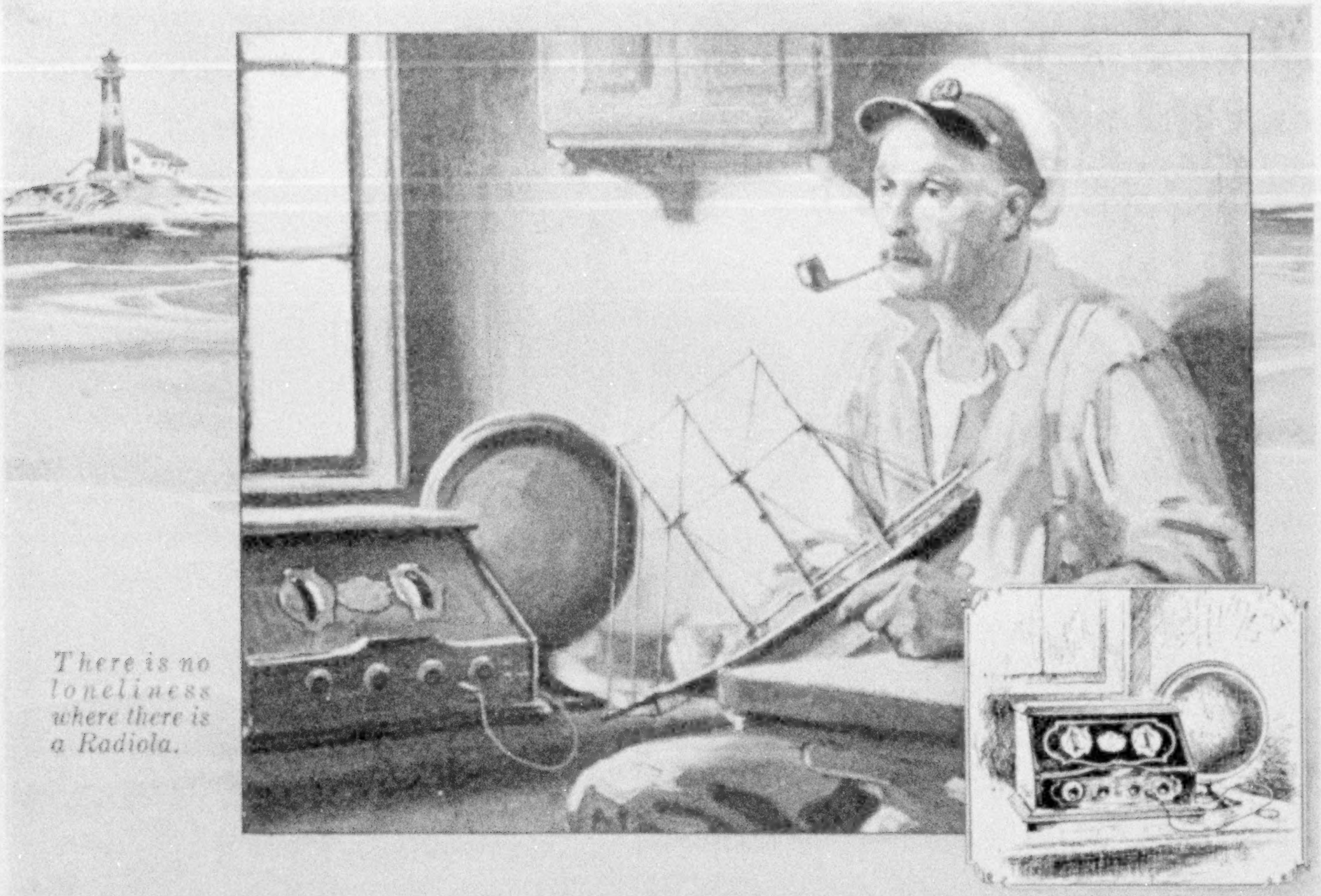

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Radiola 28—eight-tube Super-Heterodyne at $260. The eight-tube Super-Heterodyne has new power. Its desk type cabinet has room for all the dry batteries, though it may be adapted for use without batteries if combined with RCA Loudspeaker Model 104. The price includes all eight Radiotrons.

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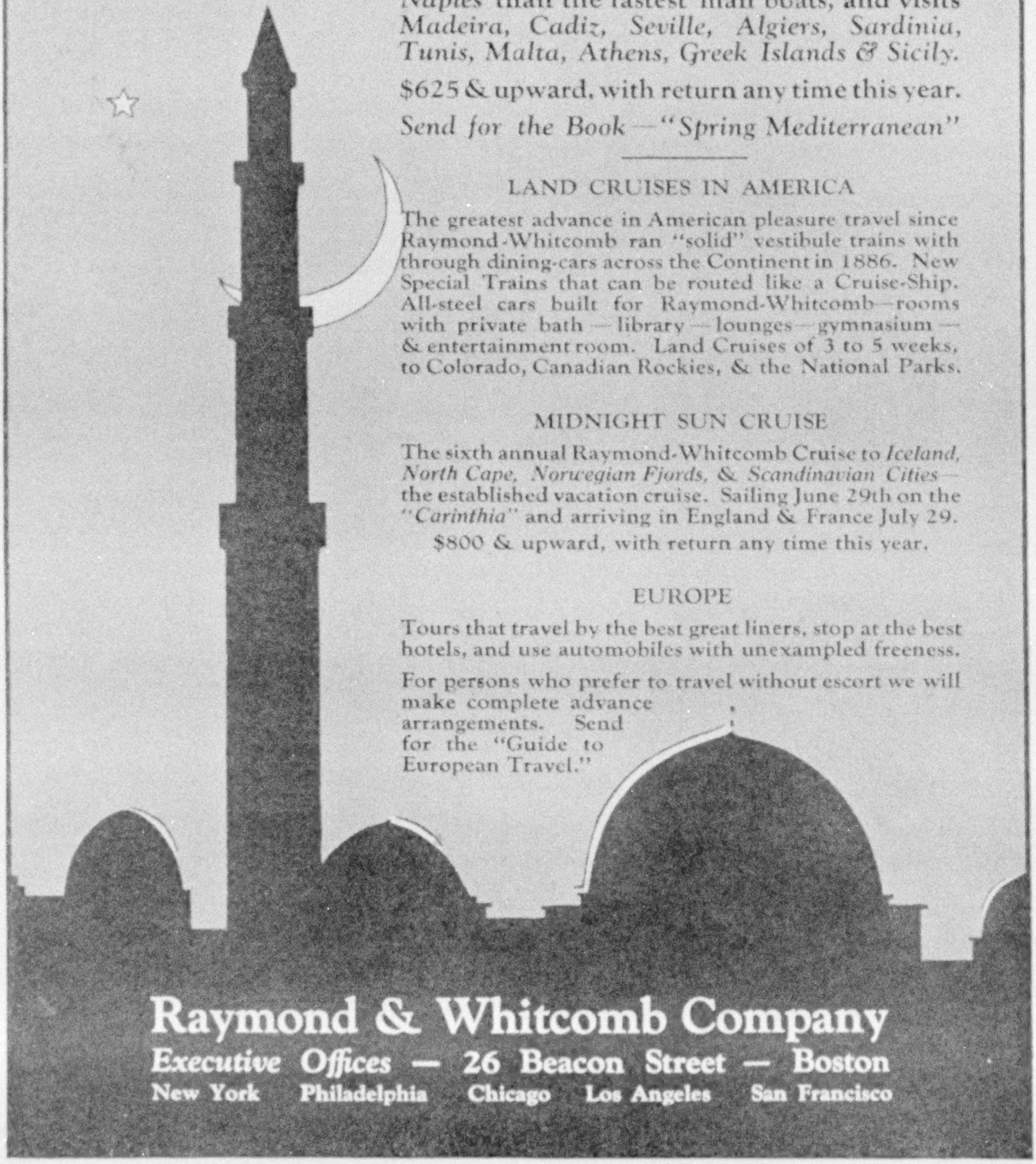
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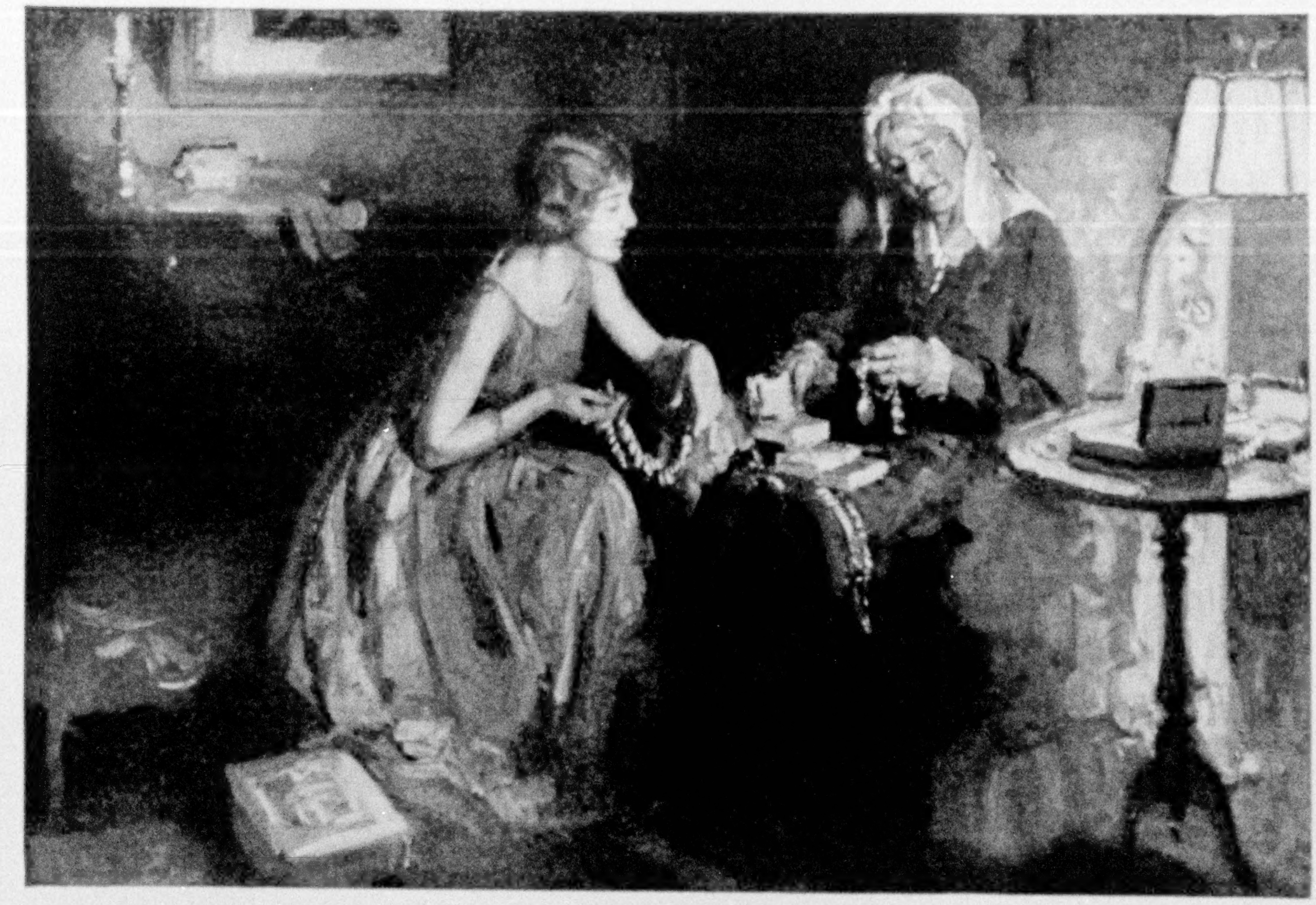

What will you have to show in future years for today's shopping dollars?

A PURCHASE FROM YOUR JEWELER IS AN INVESTMENT IN PERMANENT VALUES

~ ~ ~

THE old copy-books declare that you can't eat your cake and have it. Which is another way of saying that you can't spend your money, and keep it too!

But the copy-book editors overlooked the money spent at the jewelry store.

On the typical purchase from the jeweler, you draw an *income* of pleasure and satisfaction, year after year, while still retaining much of the *principal*, in convertible value.

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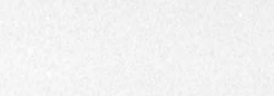

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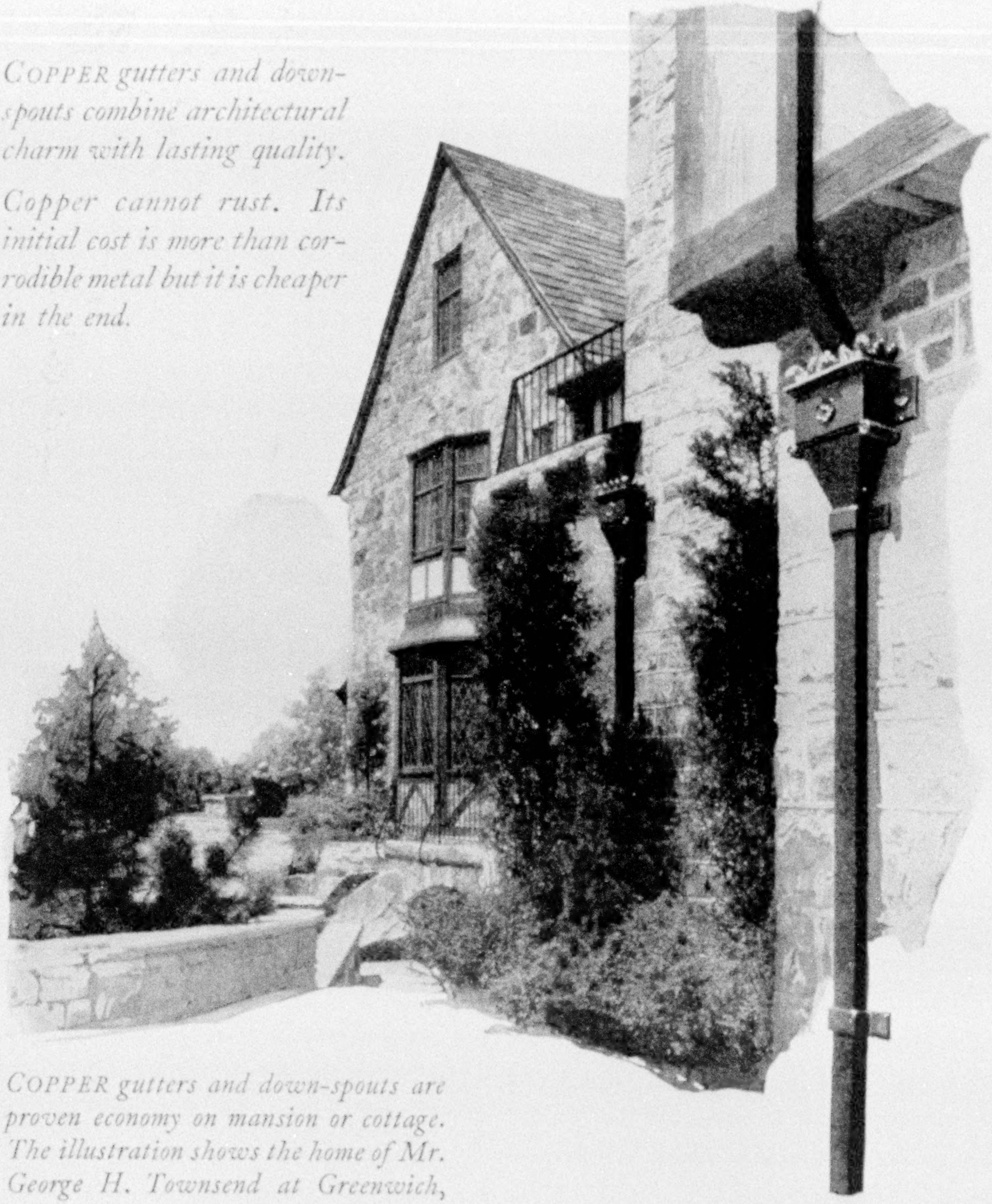

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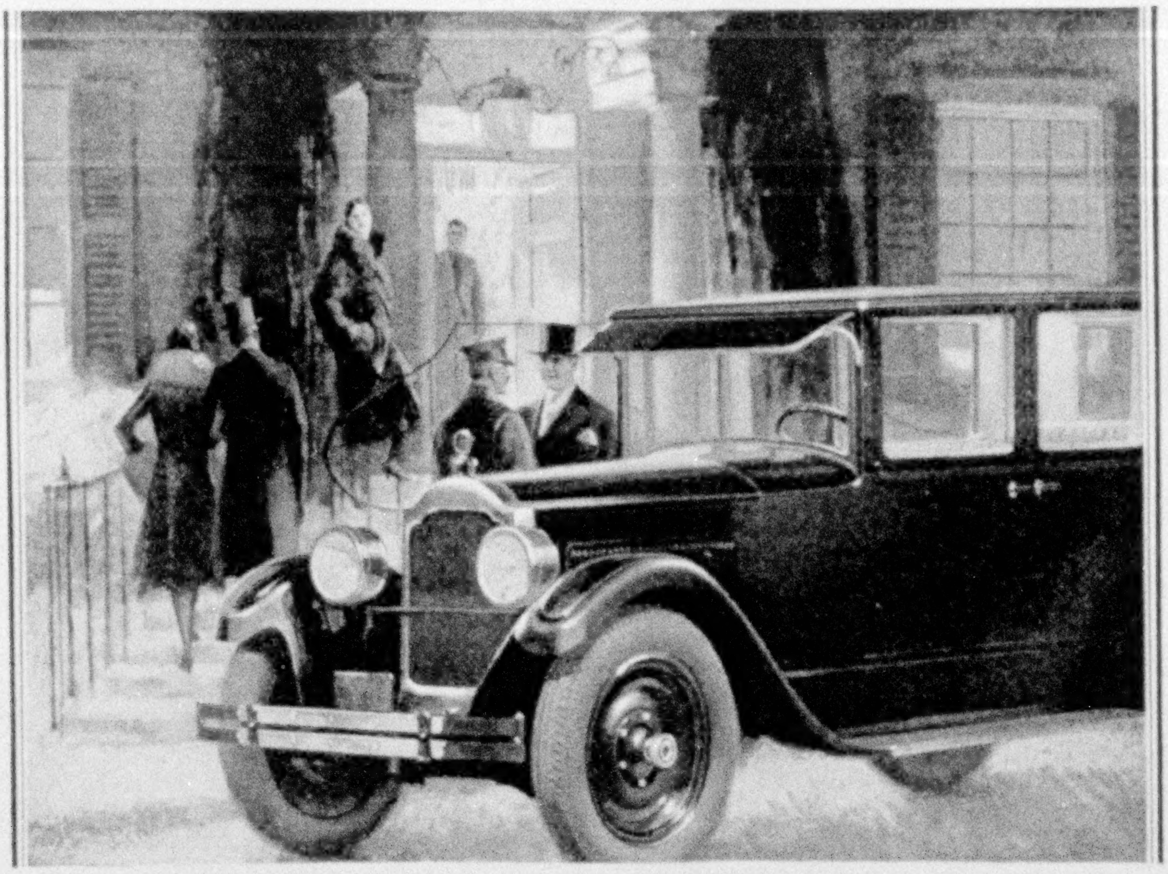

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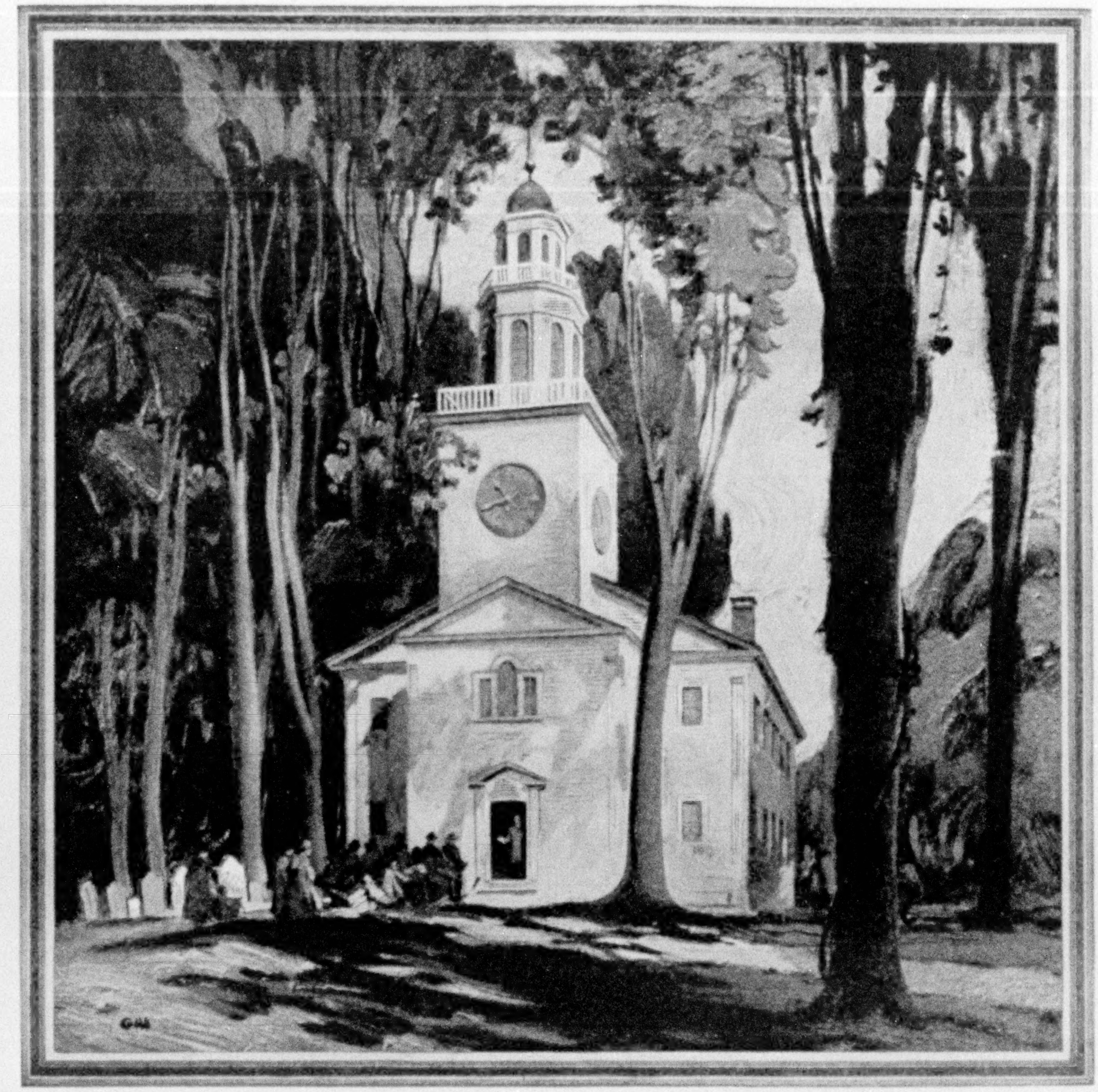

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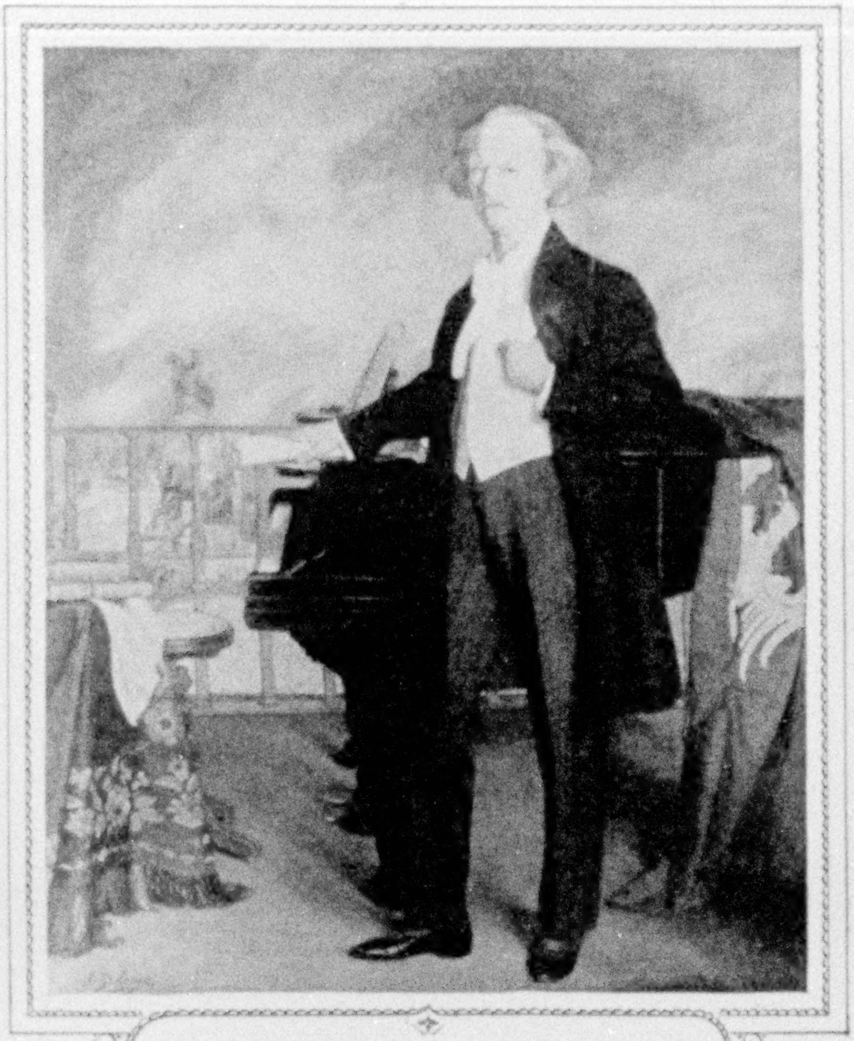

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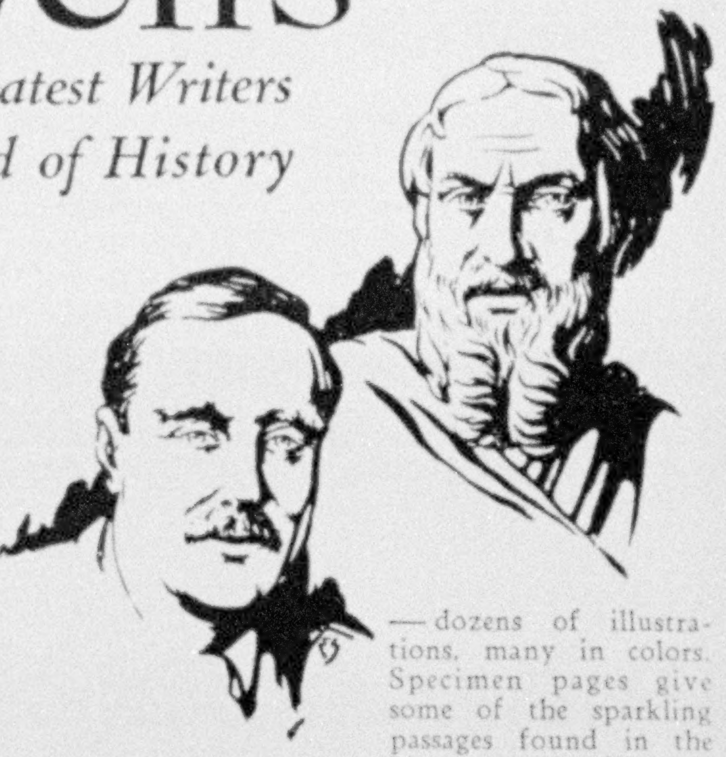

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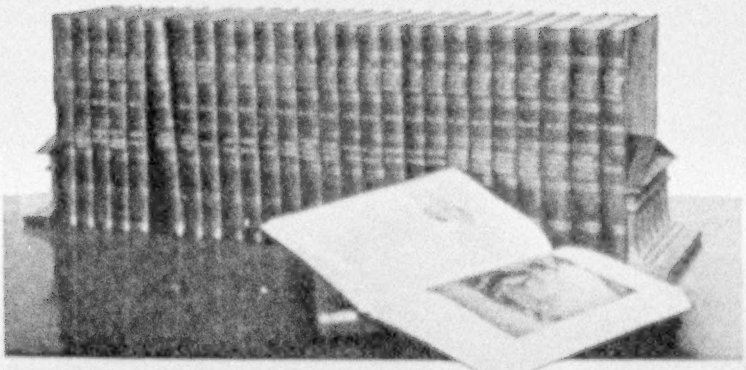

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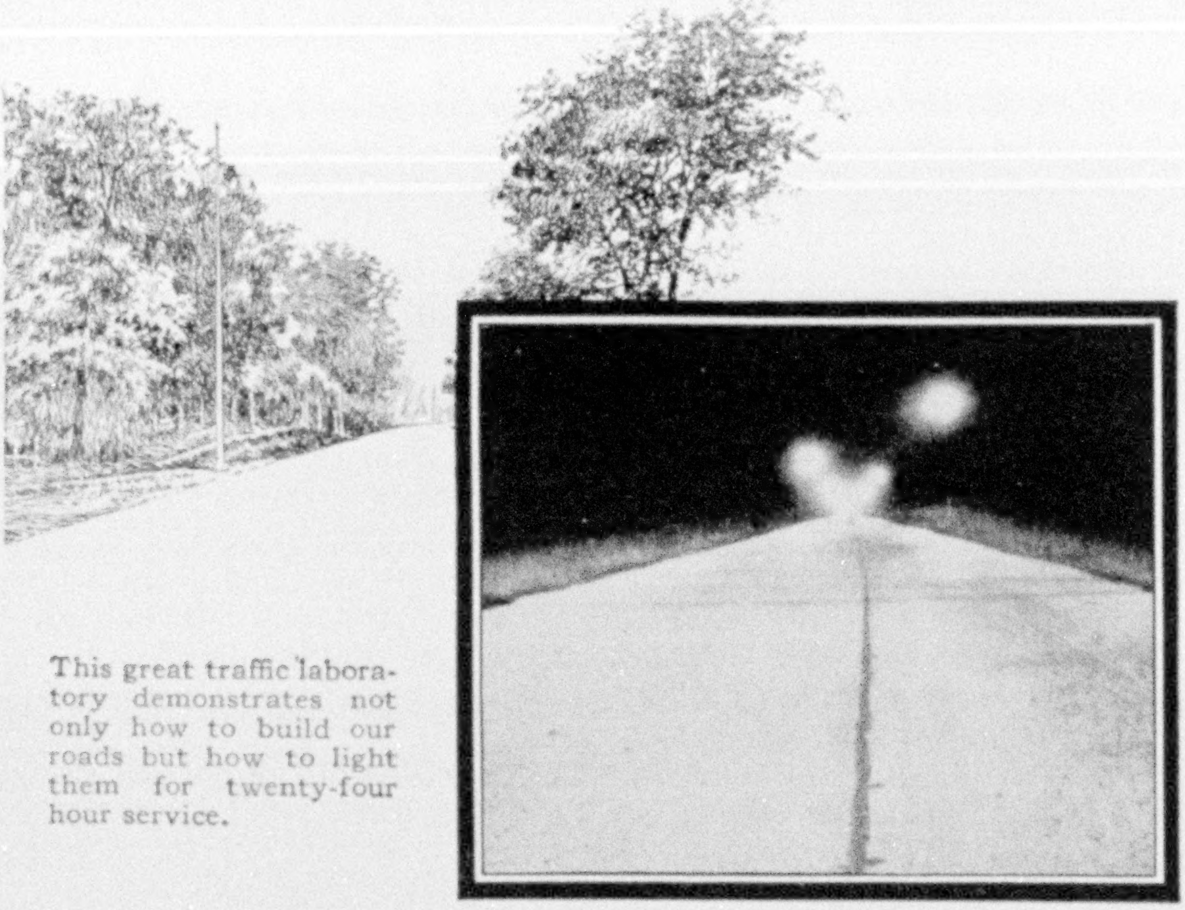

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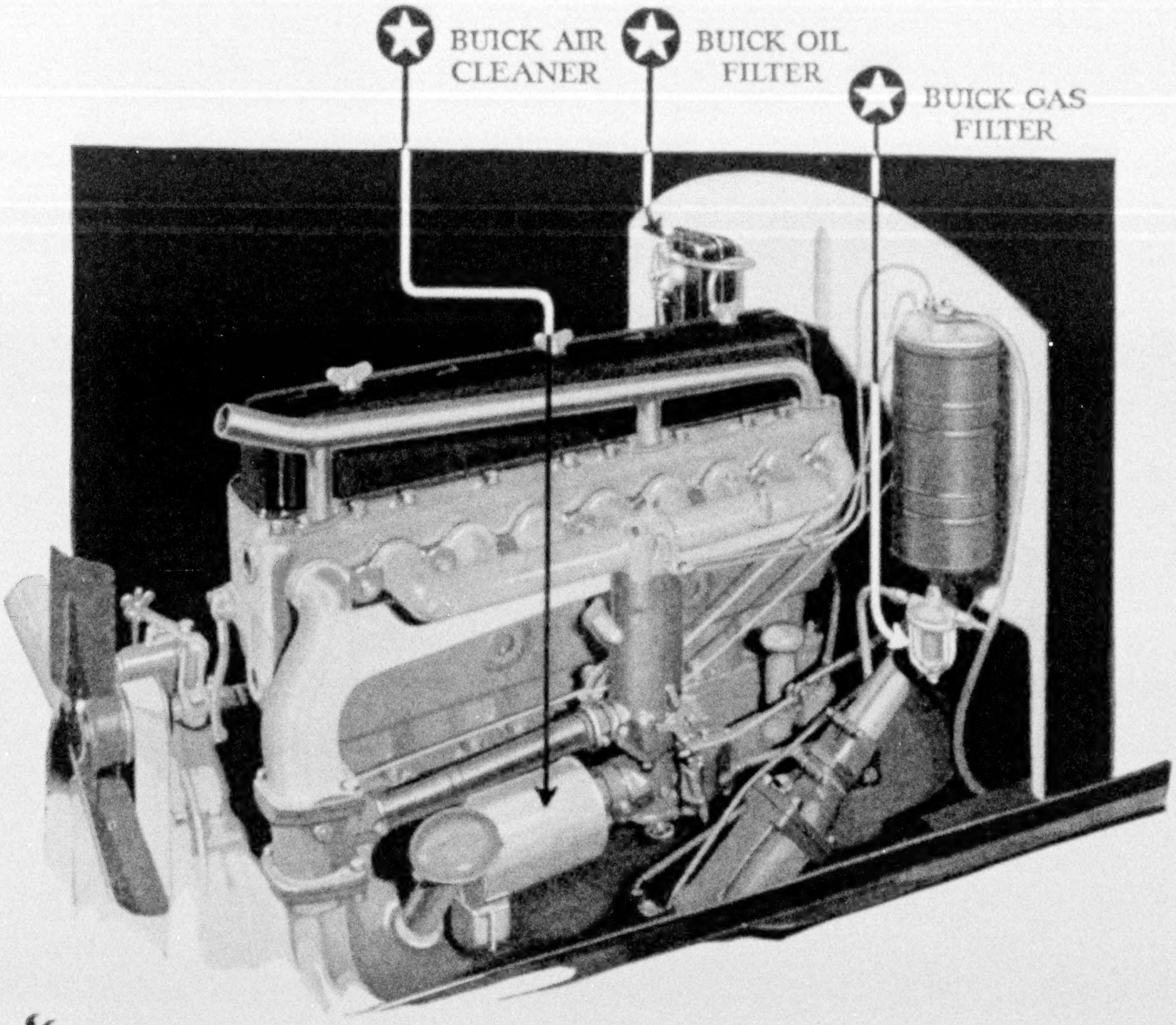

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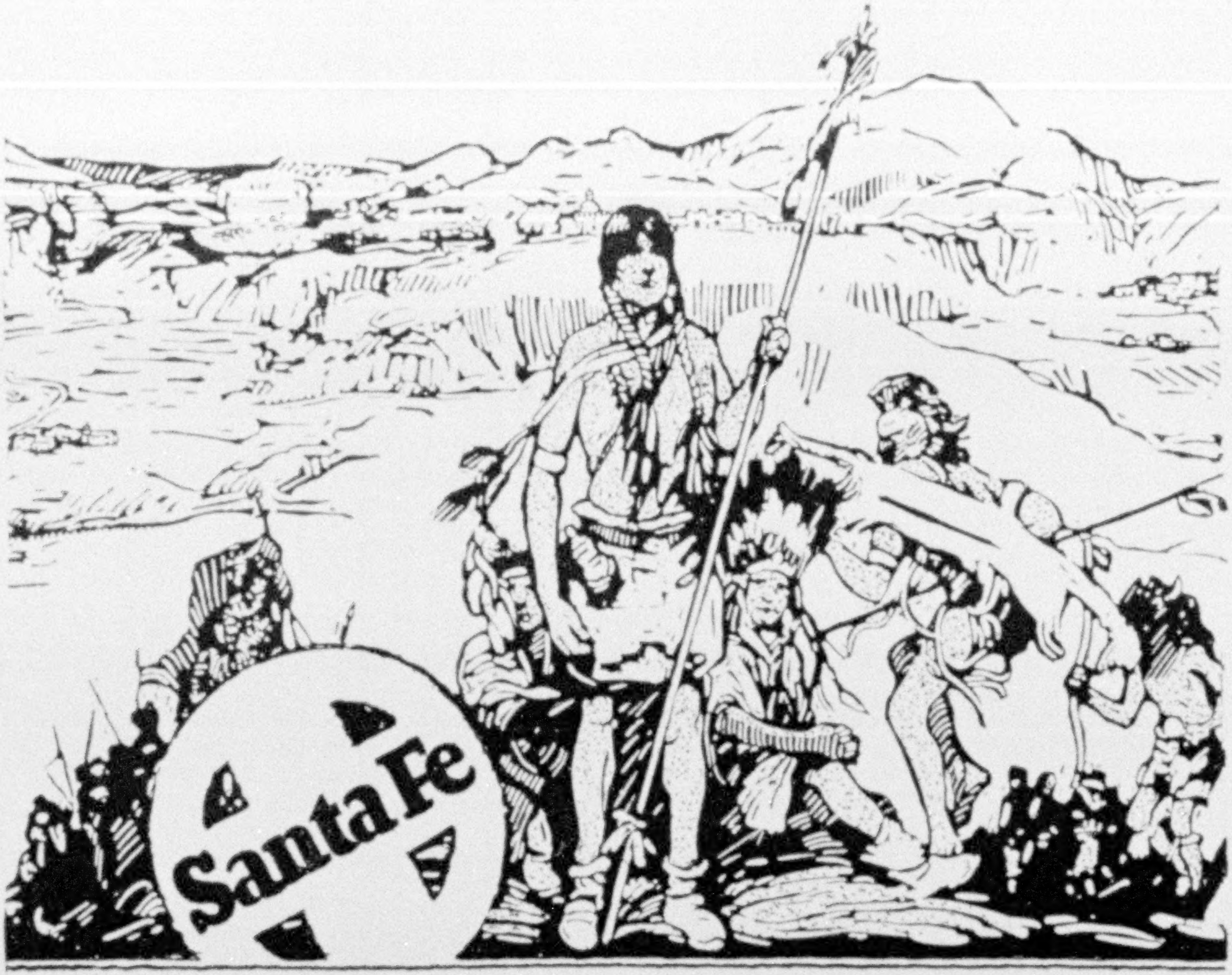

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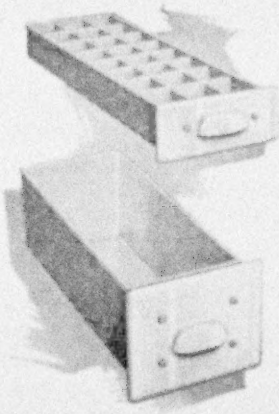
Metal Cabinet Frigidaires at New Low Prices



The new Frigidaires are equipped with either single or double-depth freezing trays, providing greater capacity for creams, ices, sherbets, salads and ice cubes.

HERE is a complete new line of metal cabinet Frigidaires, built of steel and insulated with solid corkboard, beautifully finished in enduring white Duco and bright metal trim, with linings of heavy, seamless one-piece porcelain-enameled steel.*

These new Frigidaires are operated with standard Frigidaire mechanical units that are today rendering dependable and economical service to more than 100,000 users.

A vastly increased demand has resulted in great economies in manufacturing, making possible the low prices of the new metal line which offers an ideal size and arrangement for the needs of every family. Adequate ice and dessert freezing capacity is provided by both single and double-depth trays.

The new metal Frigidaires, made entirely at the Delco-Light factories, offer revolutionary values in household electric refrigeration.

For instance, the model with a capacity of nine cubic feet has been our most popular size. We offer the same food storage capacity in the new metal line at a price $115 lower.

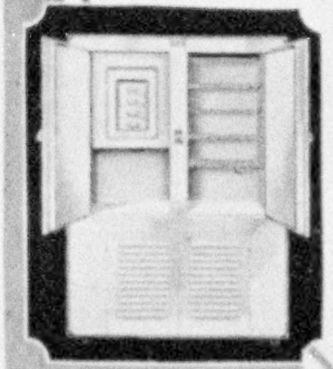
See the nearest Frigidaire distributor, branch or dealer for demonstration, or write us for catalog.

Also please remember that the Frigidaire mechanism which can be installed in any good ice-box costs as little as $190, f. o. b. Dayton, Ohio, and that any Frigidaire may be purchased on the GMAC Plan of deferred payments.

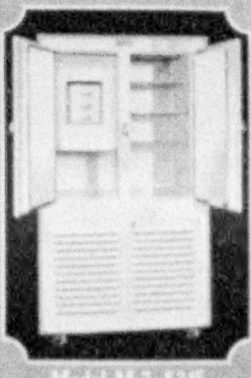
DELCO-LIGHT COMPANY, Dept. Y-3, Dayton, Ohio
Subsidiary of General Motors Corporation
The World's Largest Makers of Electric Refrigerators

Frigidaire
ELECTRIC REFRIGERATION

*The new metal cabinet Frigidaires have from five to fifteen cubic feet of food space, freeze from five to twelve pounds of ice, are finished in white Duco on steel, with bright metal trim, and are lined with seamless porcelain-enameled steel. *Model M-5-2 has no metal trim and is lined with enameled metal. All prices f. o. b. Dayton, Ohio.*



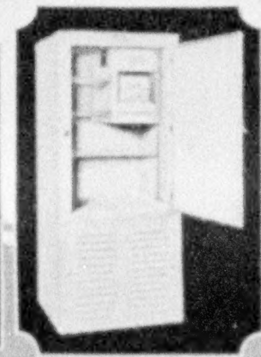
Model M-12, $495



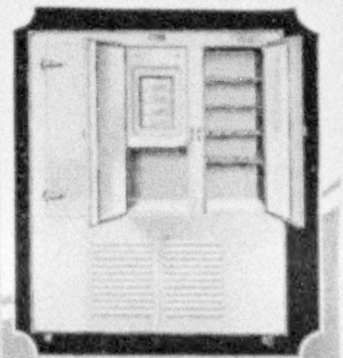
Model M-7, $345

Model M-5, $285

Model M-9, $445



Model M-5-2, $245



Model M-15, $590

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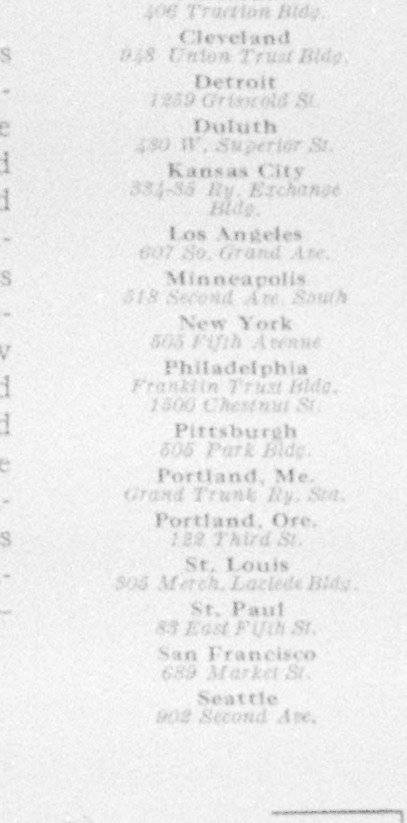

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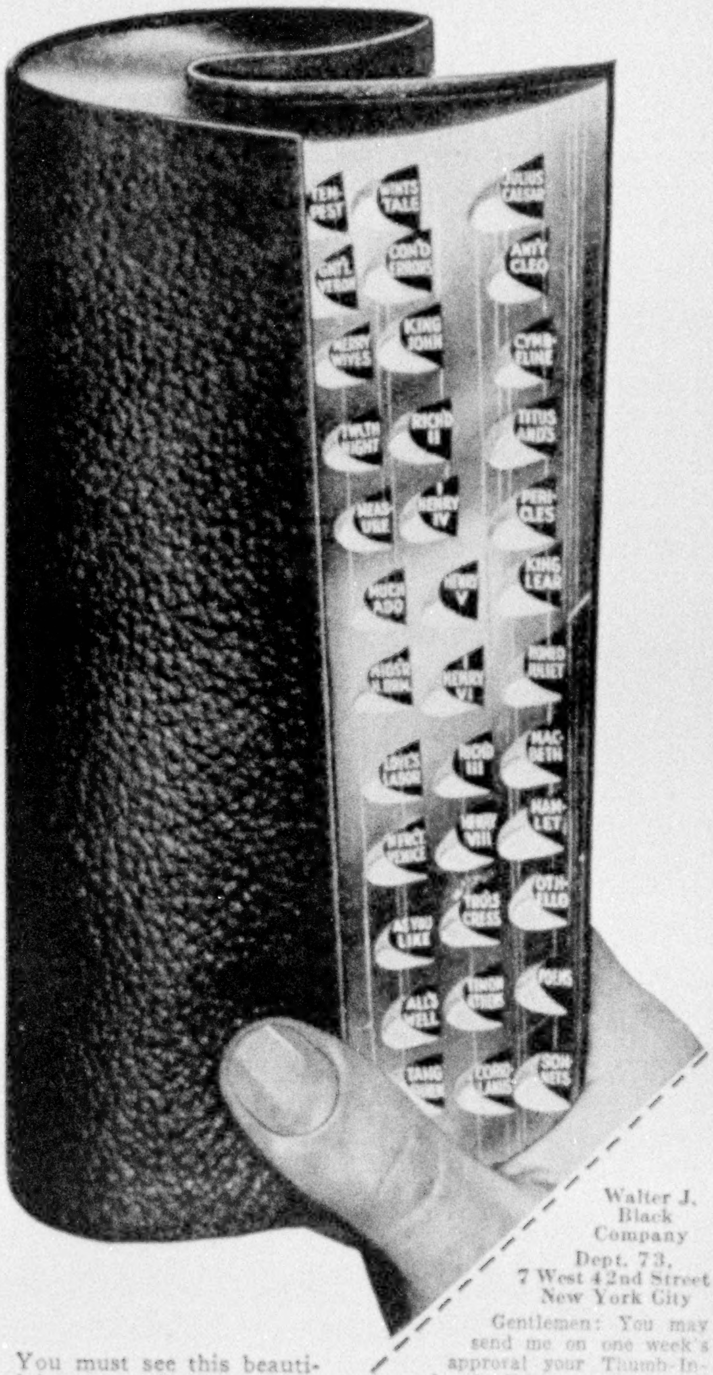

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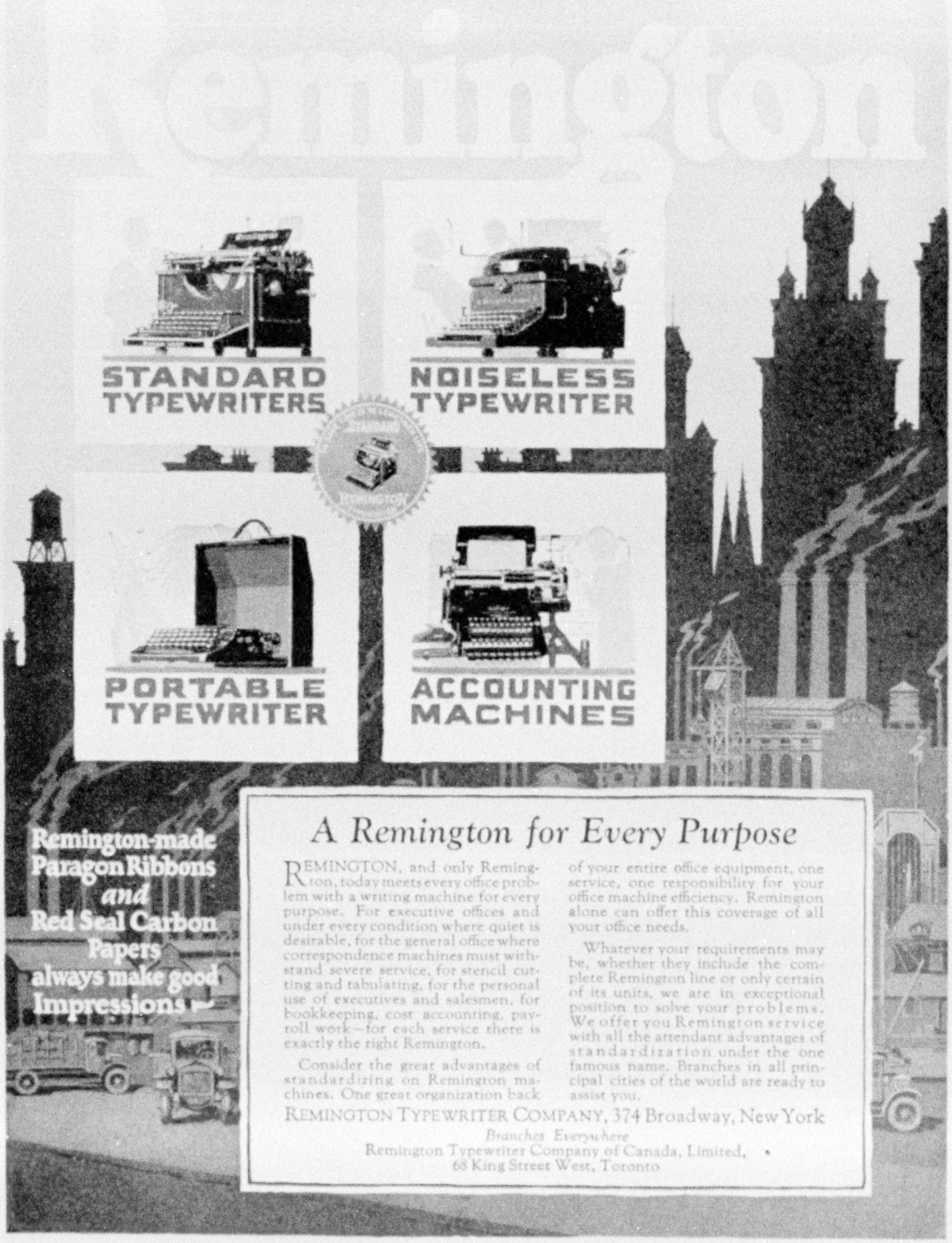
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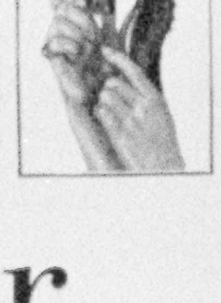

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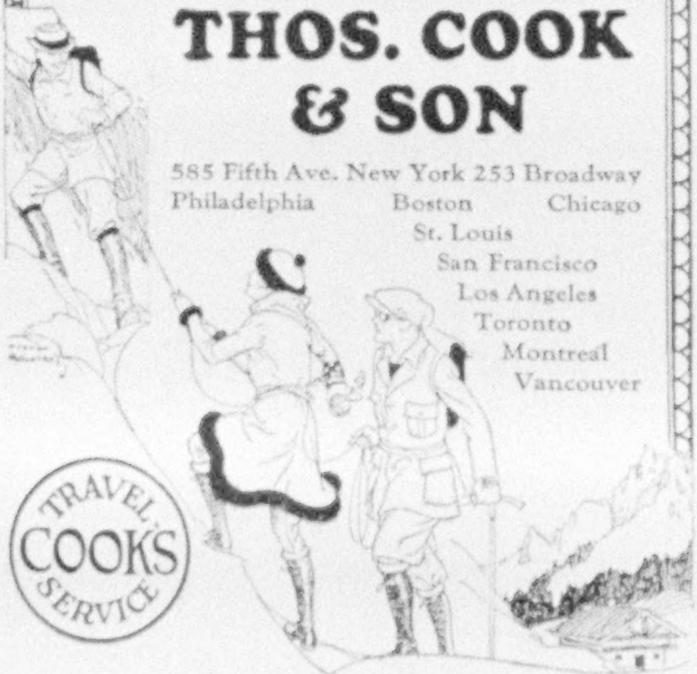

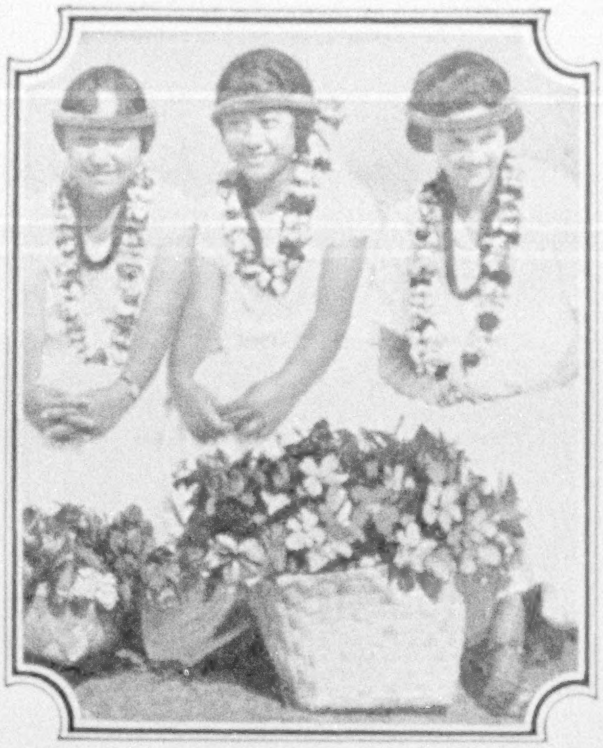

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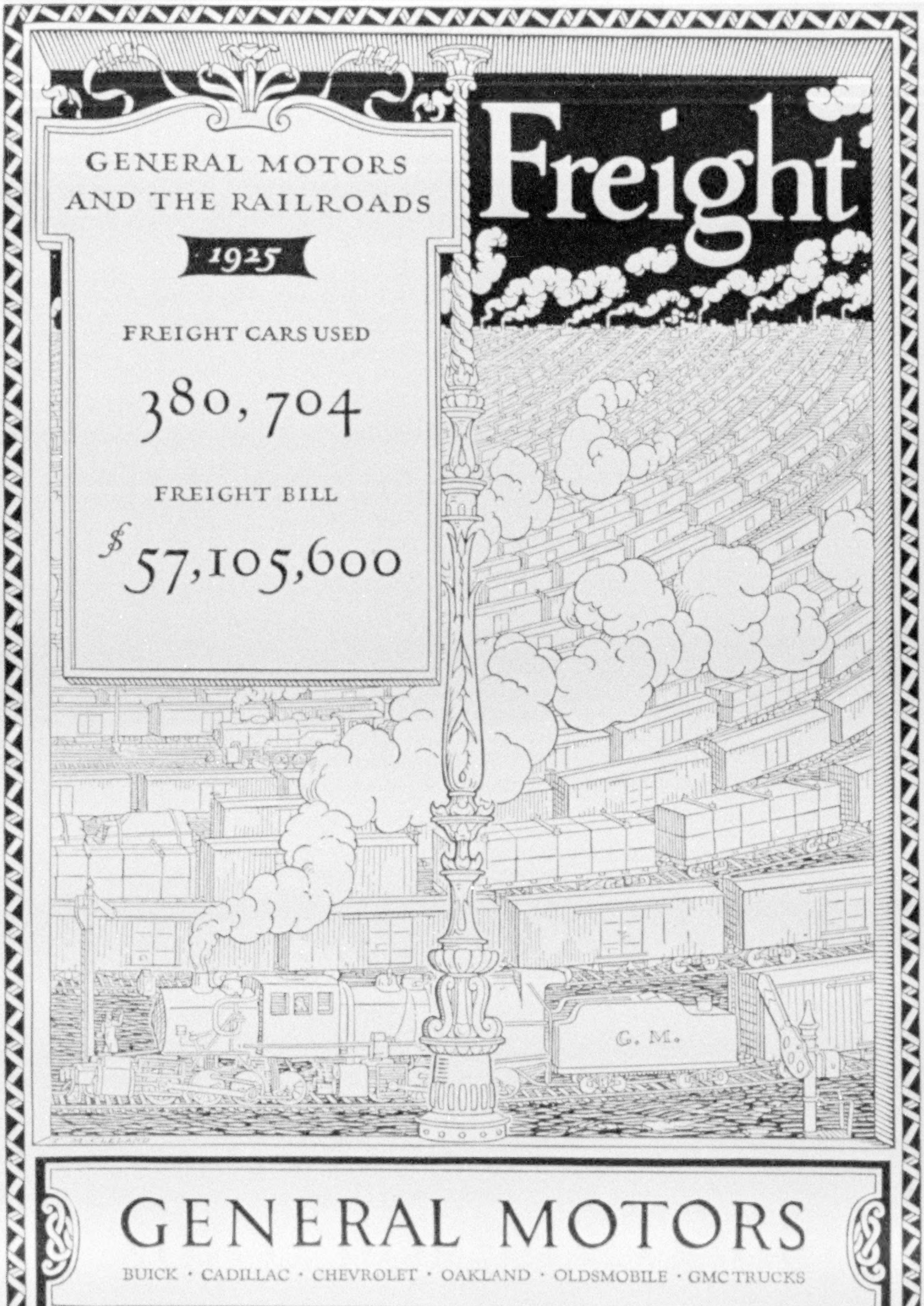

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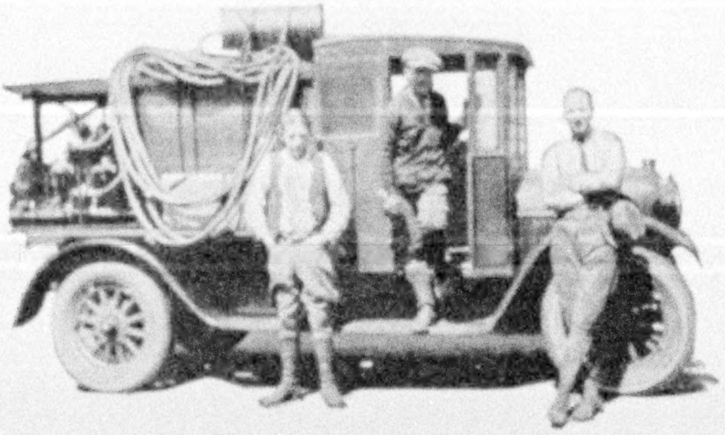

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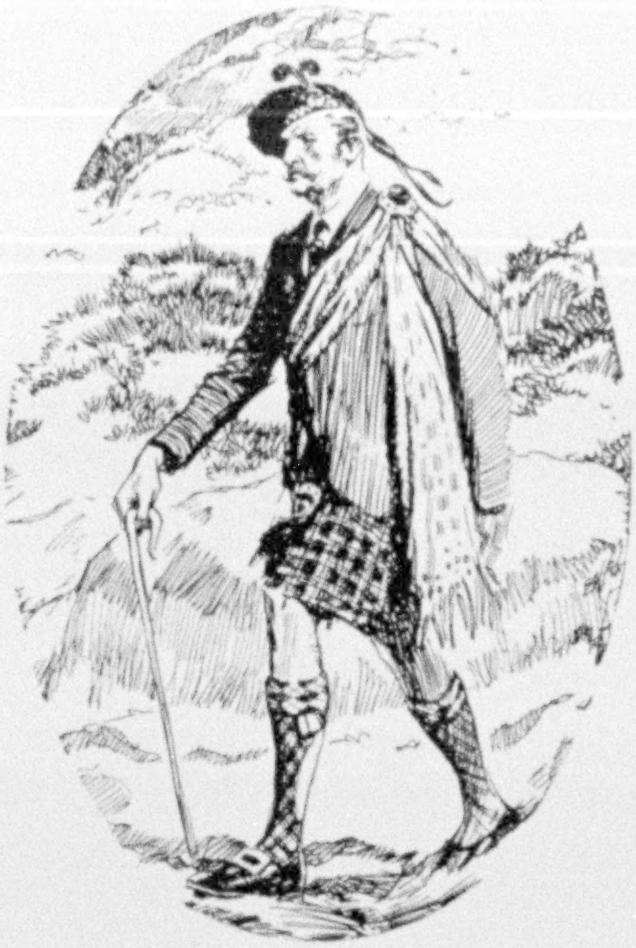

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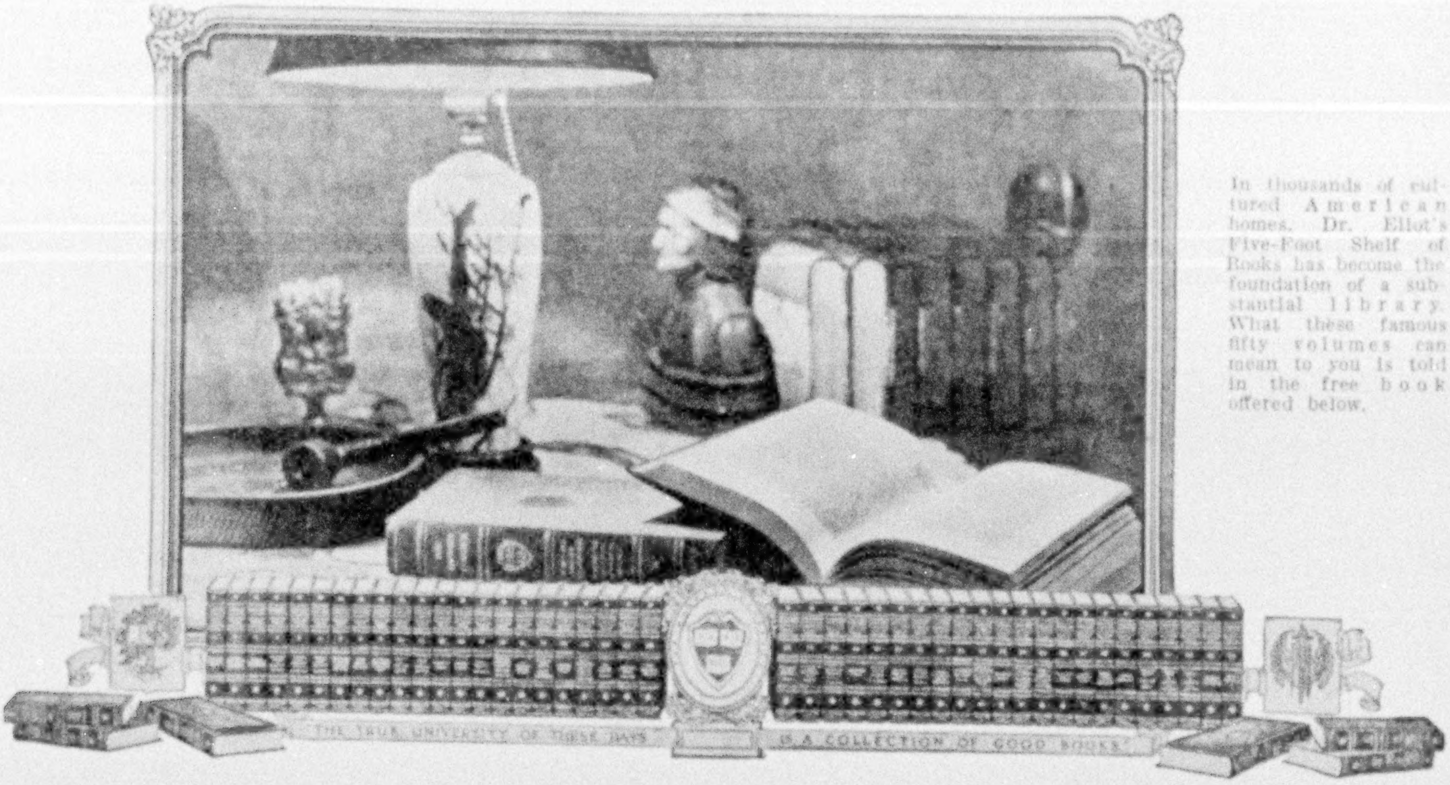
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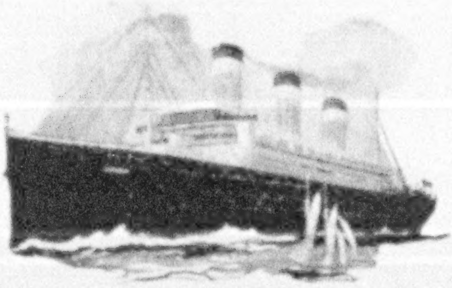

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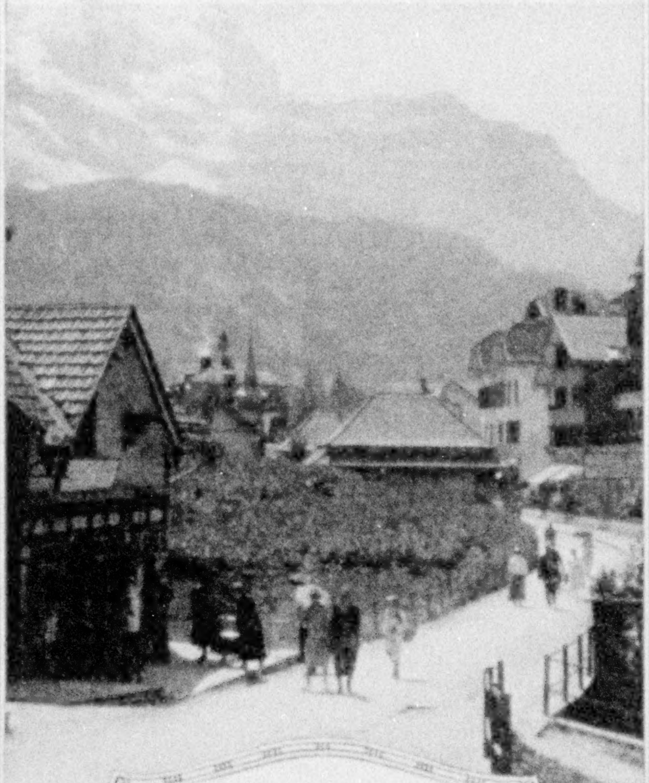

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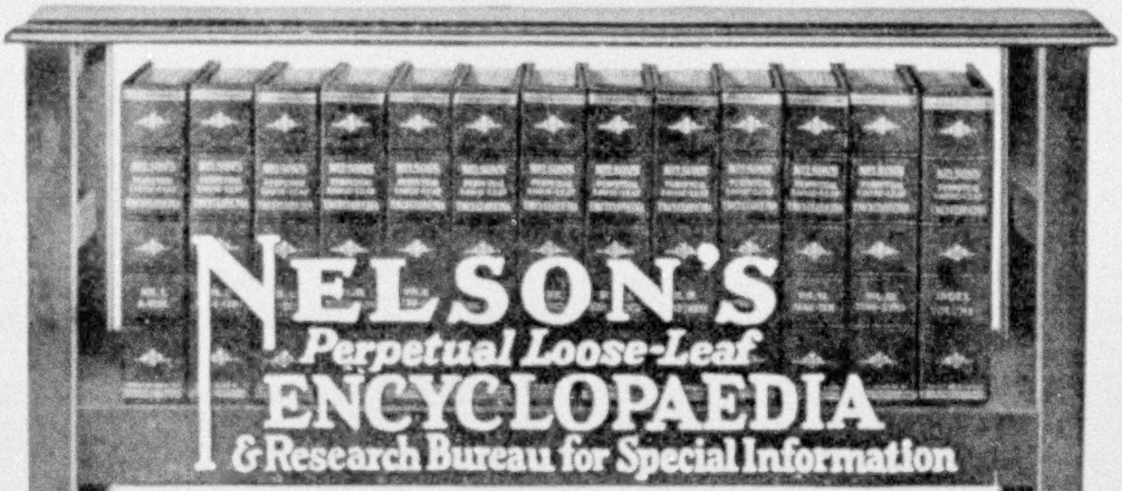

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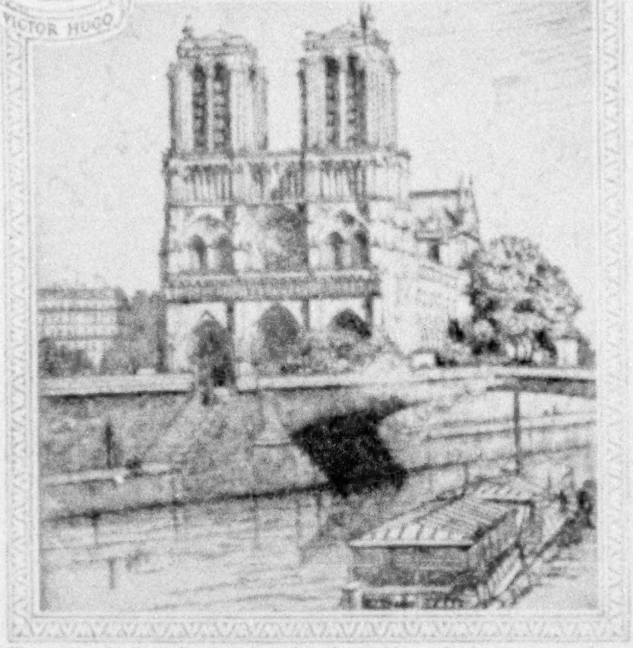

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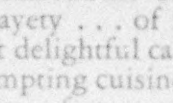

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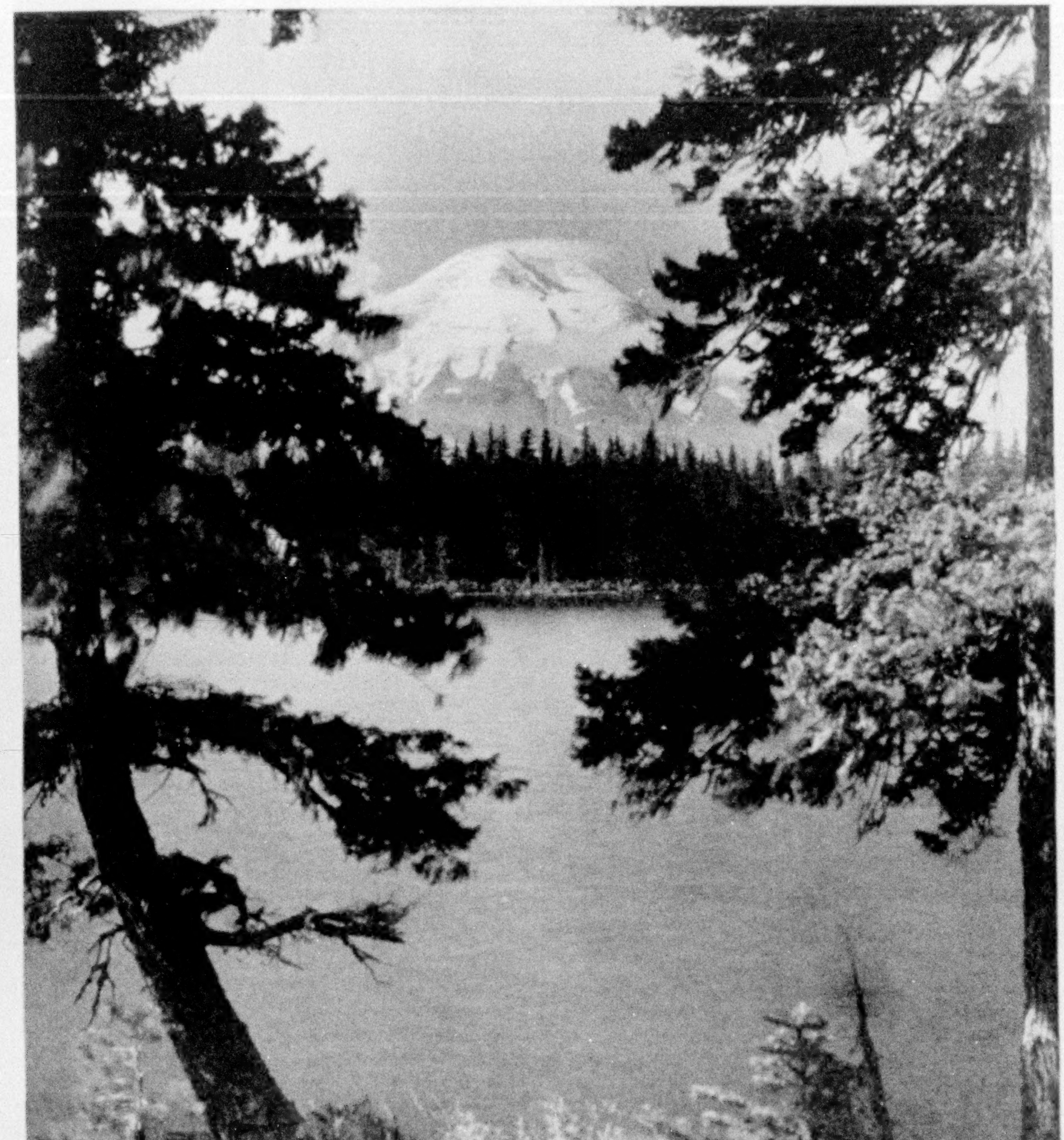

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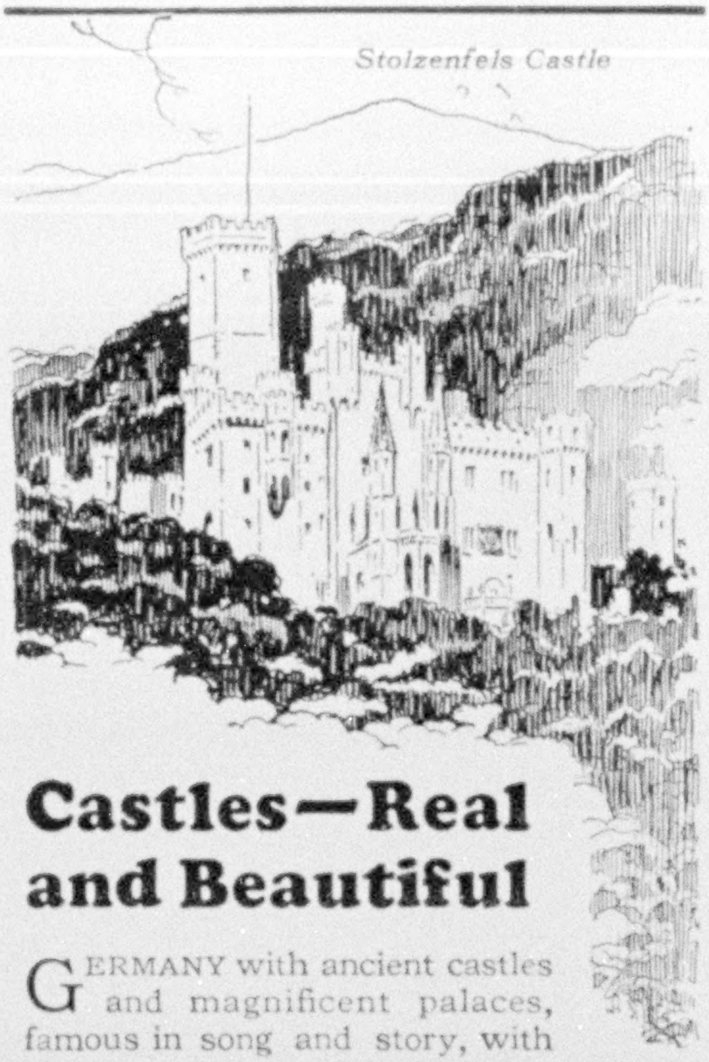

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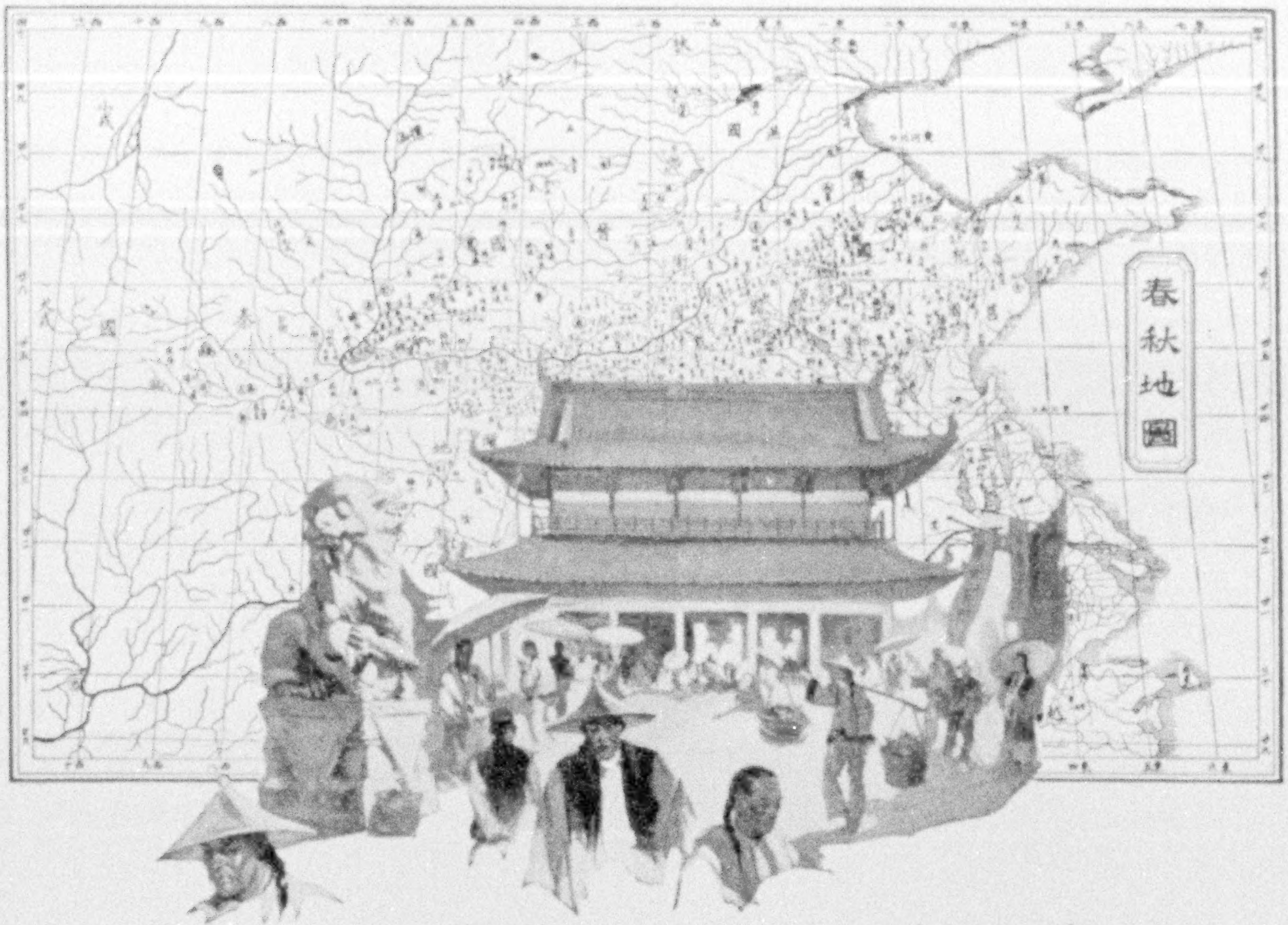

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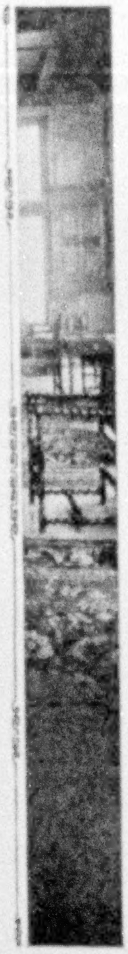

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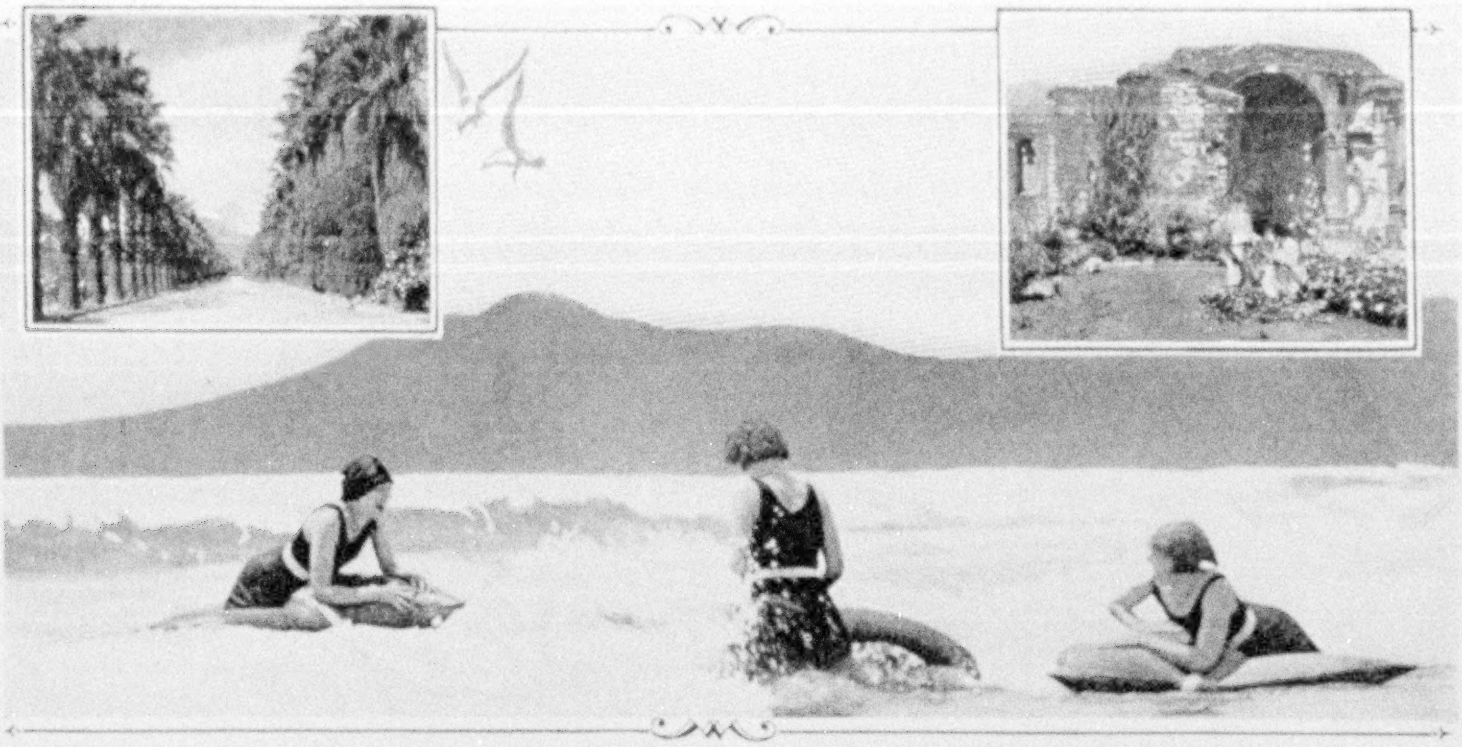

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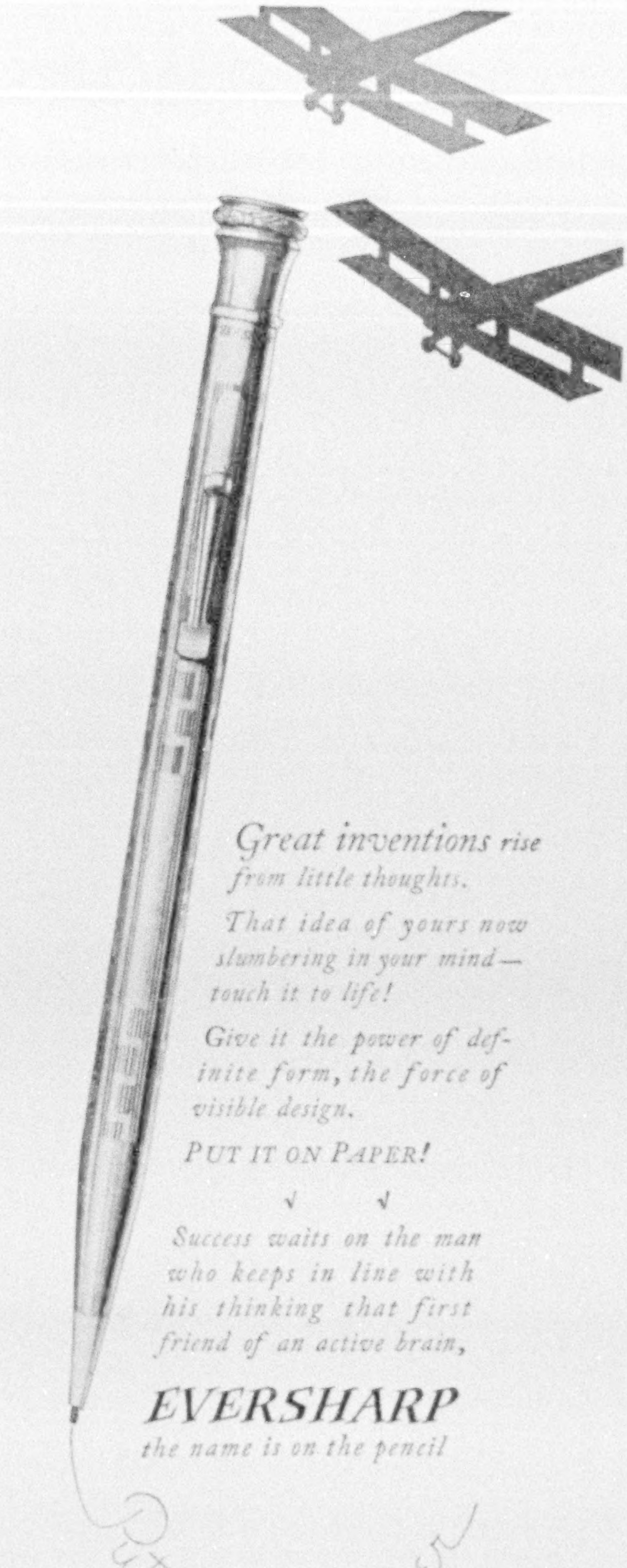

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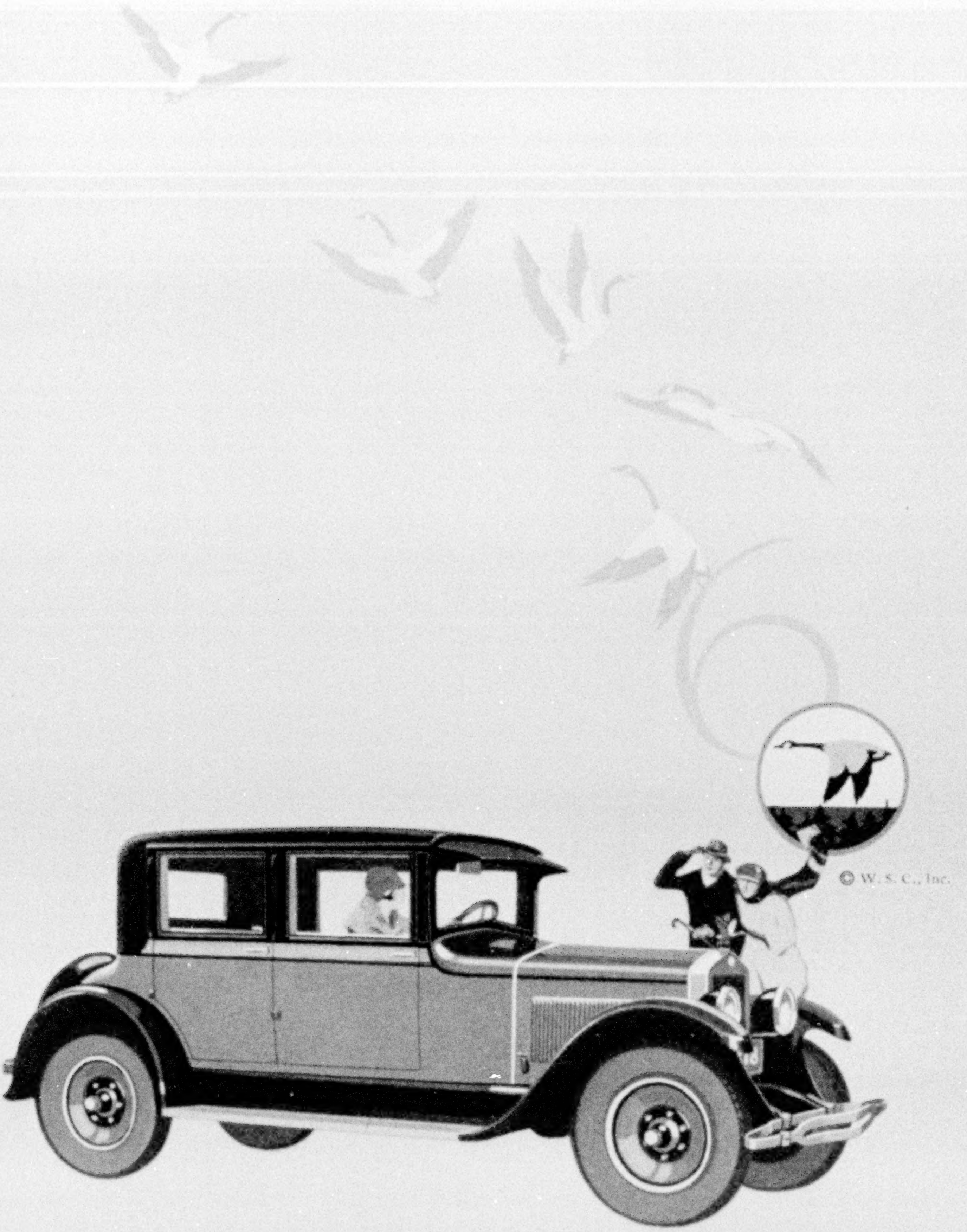

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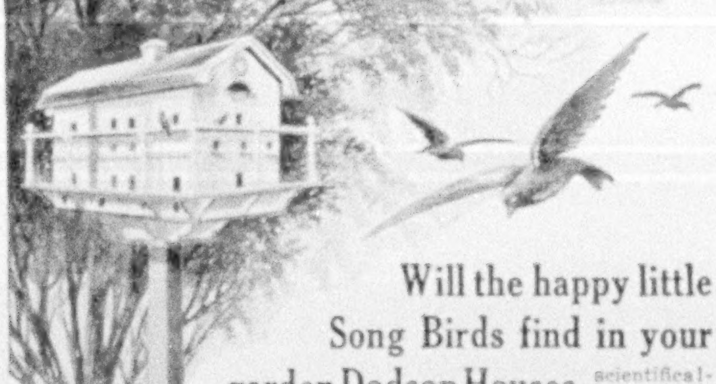

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No. 2—Flicker House—Lures the Flickers. They keep your trees free of destroying moths, ants, and other tree pests. 26½ in. high by 12 in., only **$7.00.**

No. 3—Bluebird House—The happiest, most beloved songsters. Our scientific houses satisfy these most exacting birds. Made of oak, finished in green. Size, 21 in. high by 16 in. in diameter, with 18-ft. easy raising pole. **Price, $14.00.**

Only $26.00

Easy Raising Pole

Ask about Dodson's Guaranteed Sparrow Trap.

My fascinating book, "Your Bird Friends and How to Win Them," sent to anyone who loves our beautiful song birds. It is full of things you should know. Based on 40 years' study of this most interesting subject.

No. 4—Hanging Bluebird House—Very ornamental and successful house. Lack of projections fortifies it against sparrows. The body is fir, shingles cypress with copper coping. 16 in. x 21 in. high, including rust-proof hanger, ready to put up, only **$7.00.**

Dodson's Scientific Wren House, 4 compartments, same exterior design. 21 x 18. Oak body with projections, like No. 3. Gets the beautiful Silver-throated Wrens, **$7.00.**

No. 5—Automatic Feeding Table, stocked with a few simple foods they crave and DODSON'S Suet Cake and Grain Mixture, lures songsters from the whole neighborhood. Automatically revolves to protect birds from storms. Cypress, finished in green. Size, 24x22x12 in., including 8-ft. pole, **$8.50.**

Dodson's Suet Cake, 40c a pound; Grain Mixtures, 10c a pound.

Bird Bath

Birds must have water or they eat fruits. This handsome stoneware bath, with specially designed shallow edges, complete with 32-in. stand, only **$26.00.**

Write for our big catalog of art stoneware furniture.

Order direct from this ad.

DODSON *Scientifically Designed Houses can only be bought from*

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TAKING personal motion pictures with FILMO is now a favorite all-year-'round recreation of many world-famous people. Chas. M. Schwab, J. P. Morgan, John T. McCutcheon, Galli Curci, Zane Grey, J. Ogden Armour, Robt. W. Goelet, Viscountess Astor, M. P., and hundreds of others as prominent are typical FILMO owners.

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Write for descriptive booklet, "What you See, You Get."

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SEPTEMBER 4, 1926, TO APRIL 7, 1927
An unusual and comprehensive tour
Our purpose is to see the life of the East, not merely to circumnavigate the globe

All parties are limited. Early application necessary.

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This reliable Barometer indicates changes in weather 8 to 24 hours in advance. Scientifically constructed, attractive in appearance. Highly polished mahogany case, silvered metal dial, heavy bevel glass front. Size 5½ inches.

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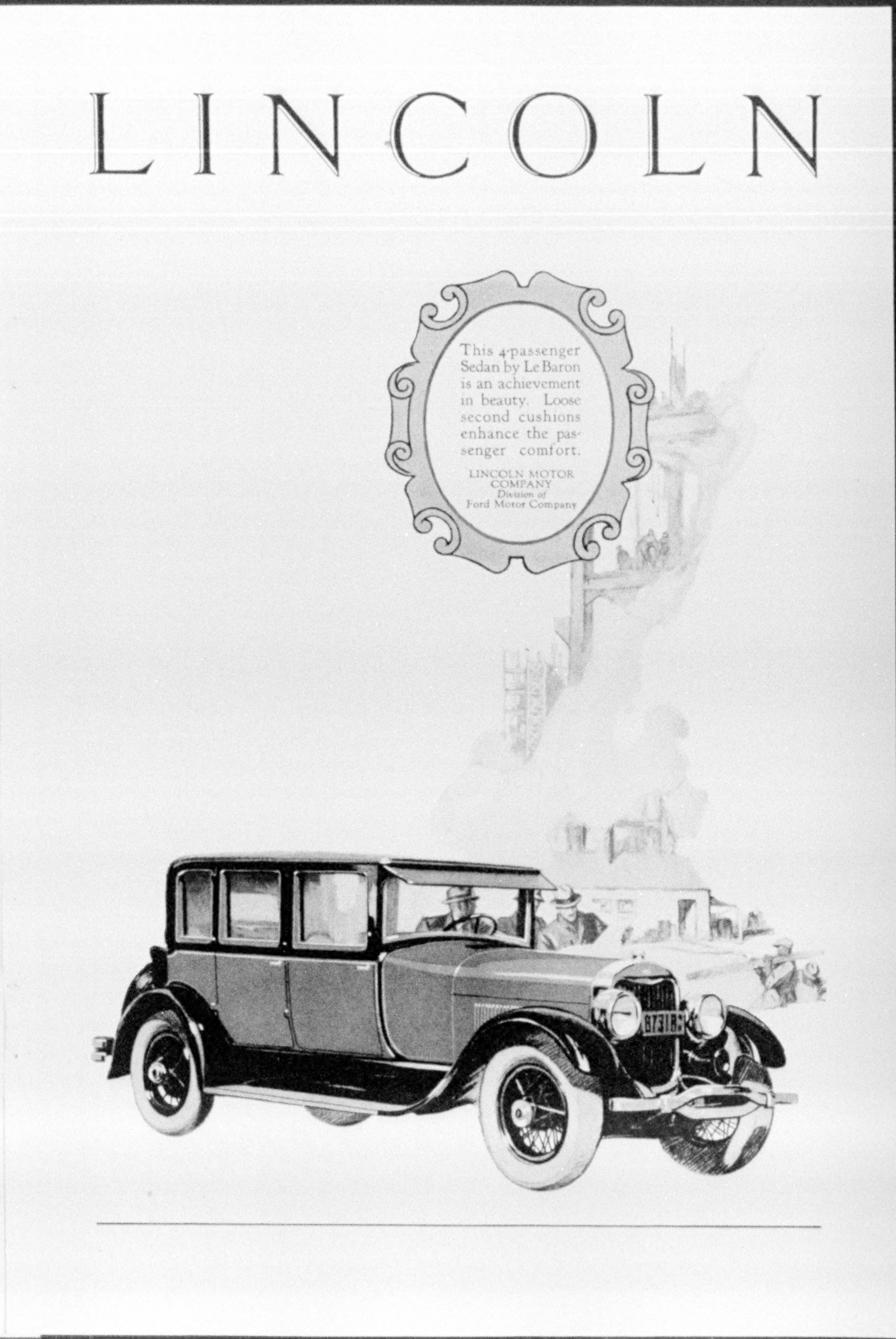

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This 4-passenger Sedan by Le Baron is an achievement in beauty. Loose second cushions enhance the passenger comfort.

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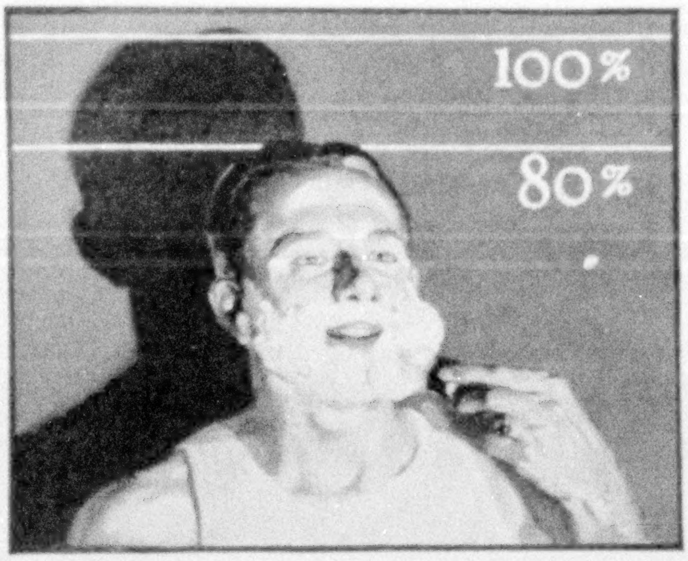

We win 80 out of every 100 men to this unique creation

Say the Word

And we'll send you a 10-day tube of this unique shaving cream to try

(NOTE COUPON BELOW)

GENTLEMEN:—

The way we win new customers to Palmolive Shaving Cream is by giving men a 10-day tube to try.

In less than five years we've gained top place in that way.

95% of the men answering our ads are wedded to other kinds of shaving soap. Yet we win 80 *out of every* 100 to this unique creation.

It's different from any other shaving cream known. 60 years of soap study stand behind it. We tried out 130 different formulas in perfecting it.

It embodies the four great essentials 1,000 men told us they wanted in a shaving cream, plus a fifth that we ourselves found and added.

5 Important Features

You'll find it superior in at least five major ways:

1—Multiplies itself in lather 250 times.
2—Softens the beard in one minute.
3—Maintains its creamy fullness for 10 minutes on the face.
4—Strong bubbles hold the hairs erect for cutting.
5—Fine after effects due to palm and olive oil content.

Find Out

What we tell you is based on what we as expert soap makers know. One of our toilet soaps, Palmolive, is the leading toilet soap of the world.

Now, in courtesy to us, will you accept a test of our shaving cream; give us the opportunity to prove the claims millions make for it?

THE PALMOLIVE COMPANY (Del. Corp.), Chicago, Ill.

To add the final touch to shaving luxury, we have created Palmolive After Shaving Talc—especially for men. Doesn't show. Leaves the skin smooth and fresh, and gives that well-groomed look. Try the sample we are sending free with the tube of shaving cream. There are new delights here for every man who shaves. Please let us prove them to you. Clip coupon now.

- 10 SHAVES FREE -
AND A CAN OF PALMOLIVE AFTER SHAVING TALC

Simply insert your name and address and mail to Dept. B-1136, The Palmolive Company (Del. Corp.), 3702 Iron Street, Chicago, Ill.

Residents of Wisconsin should address The Palmolive Company (Wis. Corp.), Milwaukee, Wis.

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Before All—Safety

In investing money, unimpeachable safety is the first consideration of every conservative investor. This is why Straus Bonds, now yielding 5.75 to 6.40%, appeal so strongly to the investing public. Investigate these sound first mortgage securities. As a first step, write for

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possess the distinction that is the attribute of true art.
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Played by Organist from Electric Keyboard

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Standard Sets $6000 and up

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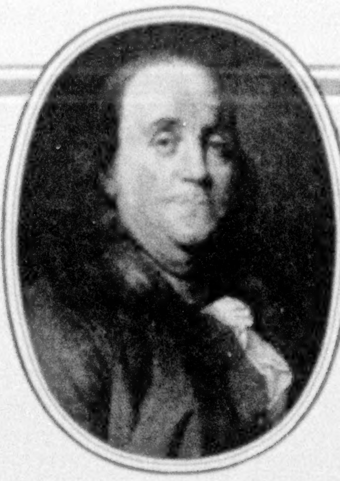
The Golden Years



BENJAMIN FRANKLIN
Born 1706—Died 1790

From a portrait by Duplessis
Courtesy of Metropolitan Museum of Art

At 68, Franklin was put in charge of the mail service of the colonies.

At 70, he was one of a committee of five appointed to draw up the Declaration of Independence and was made Commissioner to France to intercede for the colonies. At 75, he was sent on a commission to make peace with Great Britain. At 79, he was made Chief Executive of Pennsylvania and he held that post until he was 82. Shortly before his death at 84, he began fighting for the abolition of slavery.

AT a time when practically nothing was known about the prevention of sickness, when few but the stalwart survived and when the average length of life was much shorter than it is today, Benjamin Franklin lived to be 84 years old. During those years, Franklin guarded his health and preached fresh air, exercise and moderation in food.

Do you know how long *you* are likely to live? Have you ever looked at the figures shown in the Life Table prepared by the Metropolitan Life Insurance Company? These figures tell what the chances are. While the Table does not consider you individually, it does consider the composite you—you and all the other tens of thousands just your age. It averages those in good health, those fairly well and those ailing.

Live Longer

If you are a man, 32 years old, reasonably healthy, the Life Table tells you that you will probably live 35 more years. A woman of the same age will live 36 more years. Is that enough for you? Of course not. Think of all the vigorous men you know who are more than 67. Think of all the busy, worth-while women who are more than 68. Suppose Franklin had died at 67.

Go to your doctor and find out whether your body is keeping its youth. Have him take a health inventory. If impairments are found they can, in most cases, be corrected. There are few organic diseases, even those which affect heart, lungs, blood vessels and kidneys, which cannot be prevented or held in check.

Get a Life Table. Then have your doctor tell you how to stay young.

We will send you a copy of the Life Table so that you may see what your chances are—whatever your present age may be. If you want to live in good, sound health to a robust, ripe old age, you will begin now to plan for those extra, golden years that may be yours.

How Young are You?

That uncompromising record in the family Bible telling the day you were born may be surmounted. It fixes your *age* but it does not tell how *young* you are. In actual physical condition you may be ten or fifteen years younger than your birth certificate states—or you may be ten or fifteen years older!

In order that you may know how many years are ahead of you, according to the law of averages, the Metropolitan Life Insurance Company, upon request, will send you a copy of its Life Table.

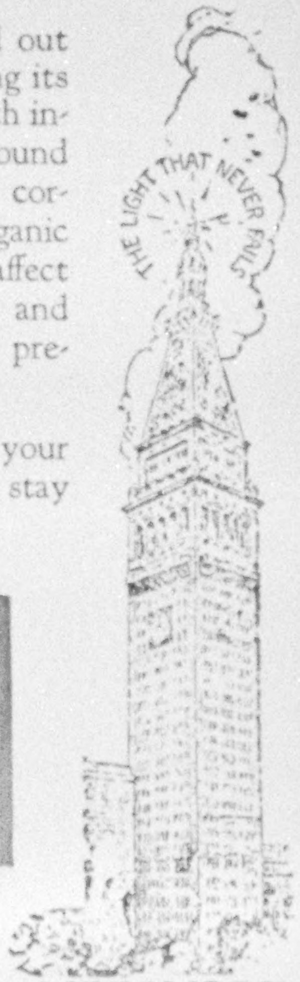
And to help you protect your health, we shall be glad to send our booklet, "Your Chance to Live".

Men and women are living longer than their forefathers lived. Life is being made safer than it was a generation ago. Medical science and sanitation are doing marvelous things to combat disease.

One after another dangerous germs have been discovered and the diseases they cause are being brought under control.

Send today for both the Life Table and "Your Chance to Live". They will be mailed you without charge.

HALEY FISKE, *President.*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Published by

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Biggest in the World, More Assets, More Policyholders, More Insurance in force, More new Insurance each year

"Mention the Geographic—It identifies you."

EASTER GREETINGS

Let your Easter greetings include Whitman's, doubly welcome after Lent.

The spirit of Spring is expressed in these fragrant, dainty sweets—in packages that please the eye.

Catering to the wide demand for special recognition of the Easter season we have provided timely artistic bands of greeting on the Sampler, the Standard and the Fussy Packages.

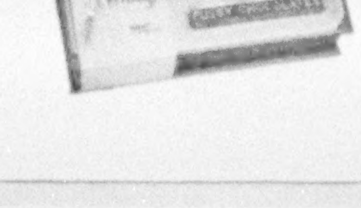
The Sampler with its wide range of candies appealing to all tastes.

The Fussy Package for those who lean toward nuts and firm-center chocolates.

The Standard Package—the original Whitman's, descended from the famous assortment of 1842.

Whitman's Chocolates

Examine these at the near-by store that is agent for Whitman's. There you can also get the new Pink of Perfection assortment, Pleasure Island, Salmagundi, Fruits and Nuts, & other favorites.


Whitman's
Fussy Chocolates

Whitman's
Sampler

Whitman's
Easter Greetings

Vol. XLIX, No. 3 WASHINGTON March, 1926

THE NATIONAL GEOGRAPHIC MAGAZINE

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SINGAPORE, CROSSROADS OF THE EAST

The World's Greatest Mart for Rubber and Tin Was in Recent Times a Pirate-haunted, Tiger-infested Jungle Isle

By Frederick Simpich

Author of "The Geography of Our Foreign Trade," "The Story of the Ruhr," "A Mexican Land of Canaan," etc., in the National Geographic Magazine

SINGAPORE, the Lion City, Crossroads of the East! Every time you open a tin can or have a blow-out you make business for Singapore, for it boasts the biggest tin smelters in the world and three-fourths of all our rubber comes out of Malaya.

And, in all the swift, significant changes wrought by white men in the East, no one event stands out more conspicuously than the rapid rise of Singapore. From a jungle isle, where tigers ate men at night, to a magnificent city, tenth among the ports of the world, in less than a century! A boom-town record this might be, even in new America, but striking indeed when one thinks of the remote geographic position of Singapore and the many centuries which other oriental cities have taken in the building.

Its place on the map, its strategic position here at the crossroads of the East, forced it to a growth at once unique and astonishing. Last year nearly 10,000 ships cut the cobalt-blue seas of the Malacca Strait, tying up the trade of Singapore with Europe, Africa, and India, with Australia, China, Japan, and the Americas.

And how Singapore came to be a city is one of the latter-day romances of the Orient—a romance linked with the name of Raffles, that adventurous Englishman whose career has gone down in the annals of the East with that of Albuquerque, of Chinese Gordon and Warren Hastings.

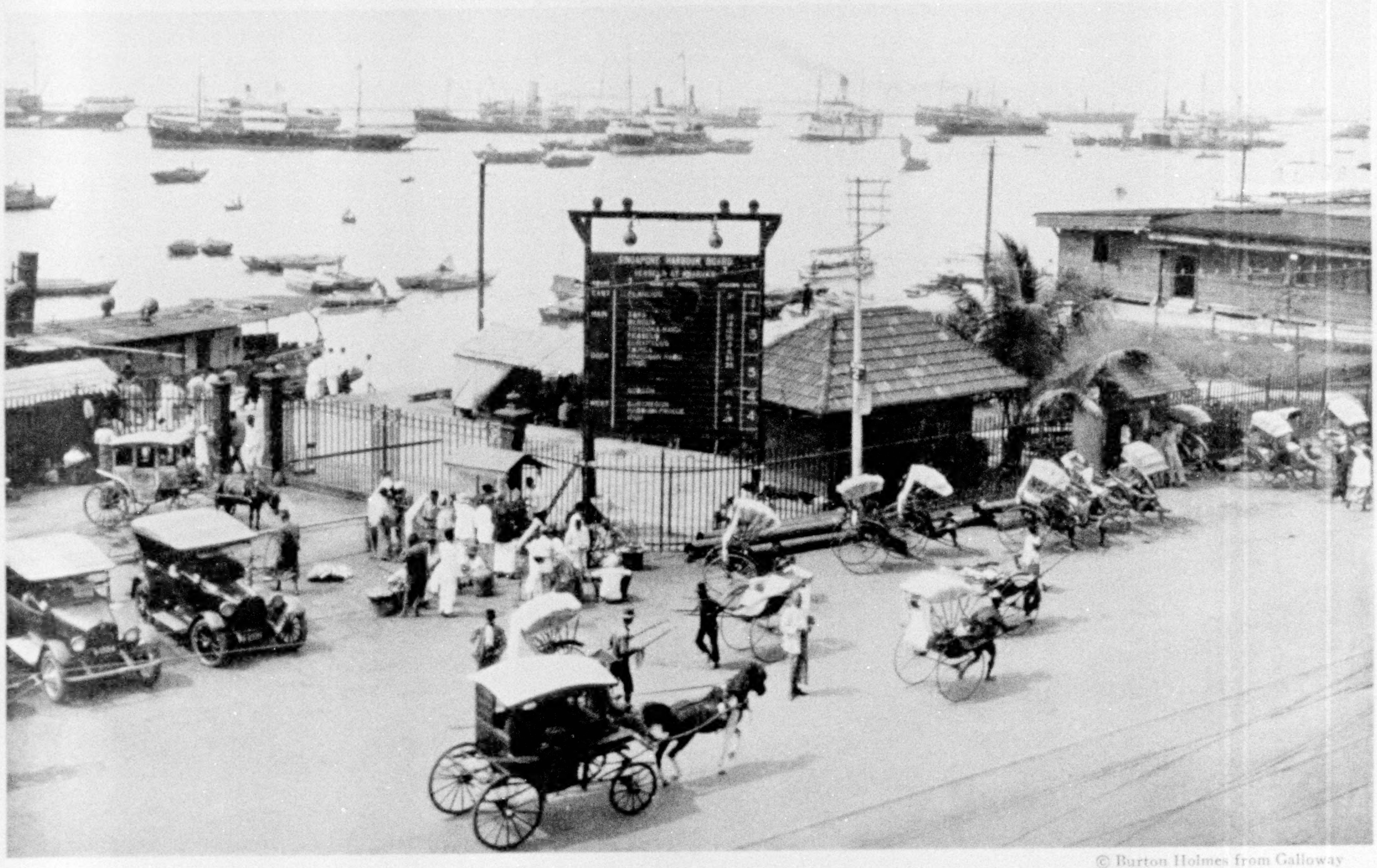
A JUNGLE ISLAND A CENTURY AGO

Away back in history, before even the days of Marco Polo, the Malays had founded their powerful States and set up an empire on their peninsula. Then came the Portuguese and laid waste to the strongholds of the sultans, leaving colonists whose descendants, bearing long, aristocratic names oddly out of place among Malay cognomens, are still found throughout the Indies.

After the Portuguese came the Dutch, sweeping from Malacca to Manila, only to be followed later by the British, who, with their genius for colonization, are here to this day.

It was this British adventure, about a hundred years ago, that lured Stamford Raffles, born at sea, into this restless region of the then unknown East. And Fate willed that he should found this great Singapore.

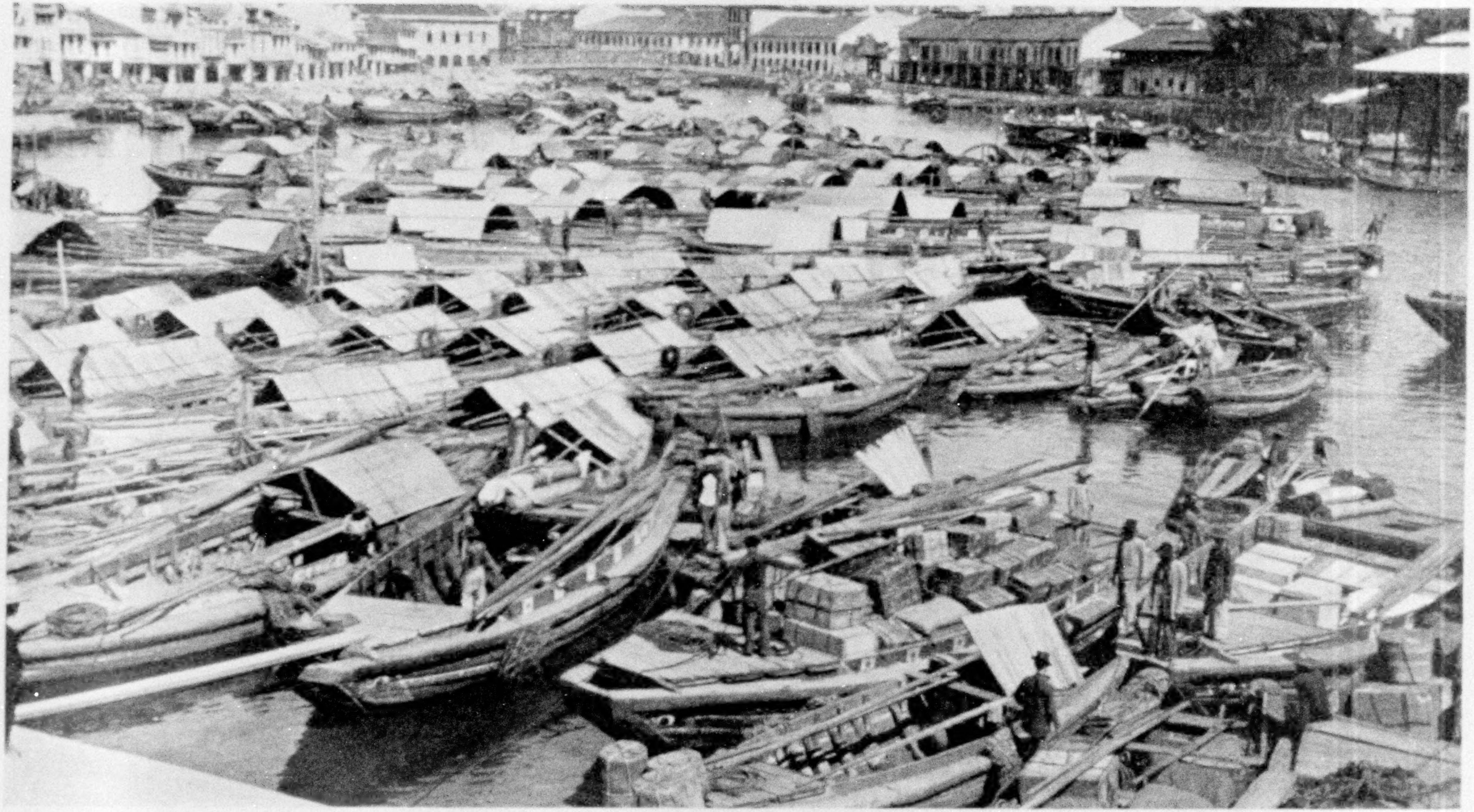
Singapore was not conquered like Hindustan, nor acquired as a ready-made



© Burton Holmes from Galloway

"THE LION CITY'S" TEEMING HARBOR AND WATERFRONT, AS SEEN FROM THE AMERICAN CONSULATE

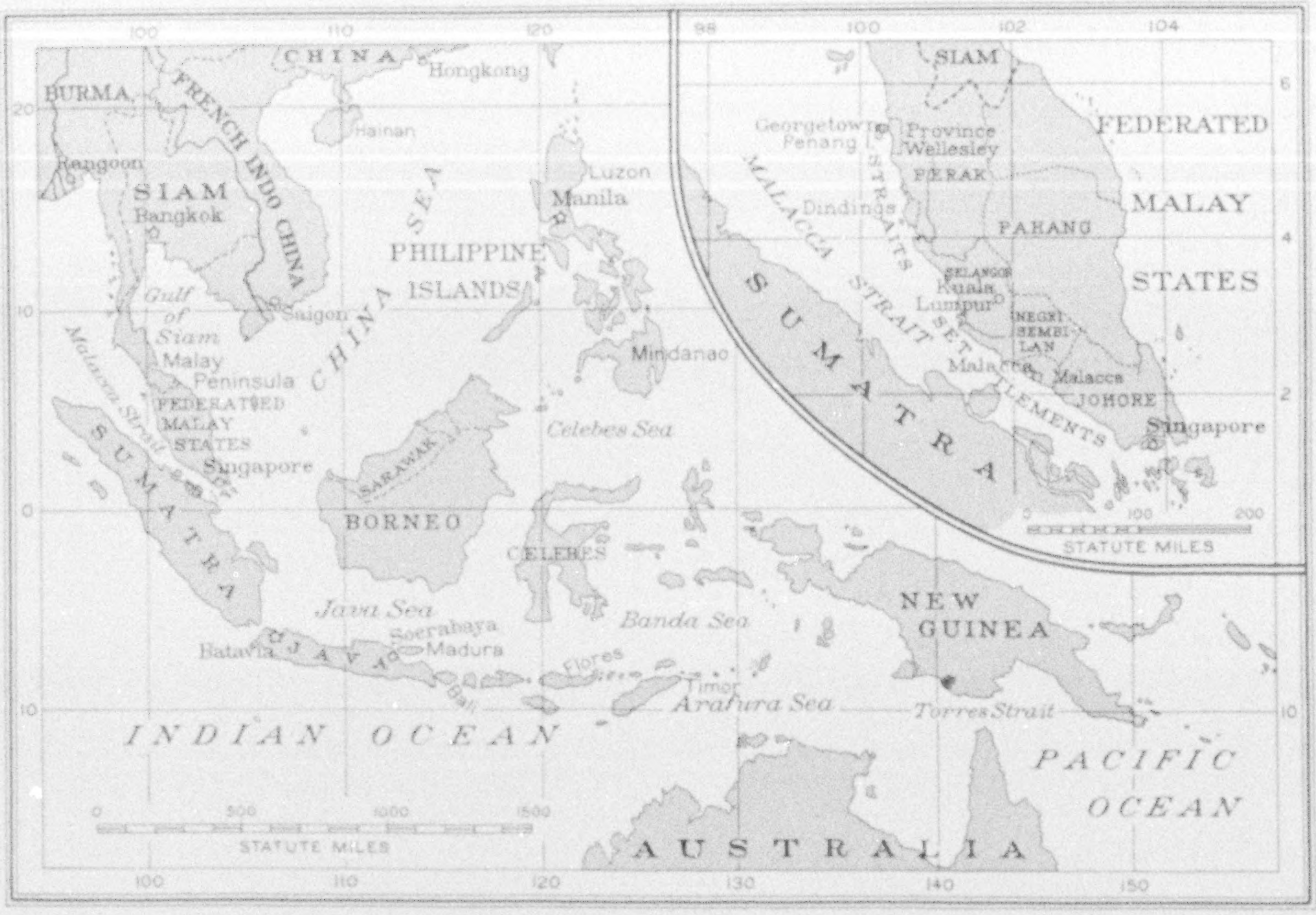
Within little more than a century, a tiny fishing village on a jungle isle, tiger-infested and pirate-haunted, metamorphosed itself into a metropolis of the British Empire and "a great international turnstile of commerce." Its dizzy, picturesque career is largely due to its strategic position at the southern extremity of Asia, on the great water highroad between India and China (see map, page 238), and to Sir Stamford Raffles' insistence that it be a free port.



Photograph by Charles B. Beery

SINGAPORE, LIKE CANTON, HAS A CHINESE BOAT COLONY

Several thousand Chinese, some of whom never set foot on land, use these boats not only as a means of livelihood, but as a place of living. In them are all the impedimenta of a home, including the chickens and a dog and cat. A mat canopy or awning usually covers the middle part of the sampan, which is propelled by a long, single oar projecting from the stern.


CHINA
Hongkong
BURMA
FRENCH INDO CHINA
Hainan
Rangoon
SIAM
Bangkok
Luzon
Manila
CHINA SEA
PHILIPPINE ISLANDS
Gulf of Siam
Saigon
Malay Peninsula
FEDERATED MALAY STATES
Malacca Strait
Singapore
SUMATRA
Mindanao
Celebes Sea
SARAWAK
BORNEO
CELEBES
Java Sea
Soerabaya
Madura
Batavia
JAVA
Bali
Flores
Timor
Banda Sea
Arafura Sea
NEW GUINEA
Torres Strait
INDIAN OCEAN
PACIFIC OCEAN
AUSTRALIA
STATUTE MILES
SIAM
Georgetown
Penang
Province Wellesley
PERAK
Dindings
STRAITS
MALACCA STRAIT
SETTLEMENTS
PAHANG
SELANGOR
Kuala Lumpur
NEGRI SEMBILAN
Malacca
JOHORE
Singapore
FEDERATED MALAY STATES
SUMATRA

Drawn by A. H. Bumstead

A SKETCH MAP SHOWING THE STRATEGIC GEOGRAPHIC POSITION OF SINGAPORE

The tenth port of the world owes its prosperity primarily to its key position at the crossroads of the East. In the upper right corner is a more detailed map of the Malay Peninsula.

colony, like Hongkong; it was simply bought as New York was, and settled, when Sir Stamford Raffles selected it as an outpost for British traders on the China route and purchased it for the East India Company from the Sultan of Johore. It was a jungle-covered island then, peopled by a few score savage Malay fisherfolk hovering along its mangrove-swamp shallows, dreading the tigers and pythons and cut off from all the outside world.

NOW A CITY OF MARBLE BUILDINGS

Now it is a wonder city, with marble bank buildings of singular beauty and great stone law courts and government edifices and Christian churches—all in striking contrast to the ornamental Malay mosques, the carved temples of the Hindus, and the fantastic joss houses of the Chinese.

Through the thick jungle, where once led only the elephant paths, wide, level roads have now been built, and the hoarse squawk of the motor horn has drowned the fierce growls of the lurking tiger.

Across to the Johore mainland a great granite causeway has been thrown, and on up through the Malay Peninsula the railways have been driven, till now Bangkok, a thousand miles away in Siam, is tied up by rail with Singapore,* and on to the northwest the rails are stretching out to Rangoon, to India, to the Persian frontier, soon to Bagdad, perhaps, and then on to Paris—the path of flying men from London to Sydney.†

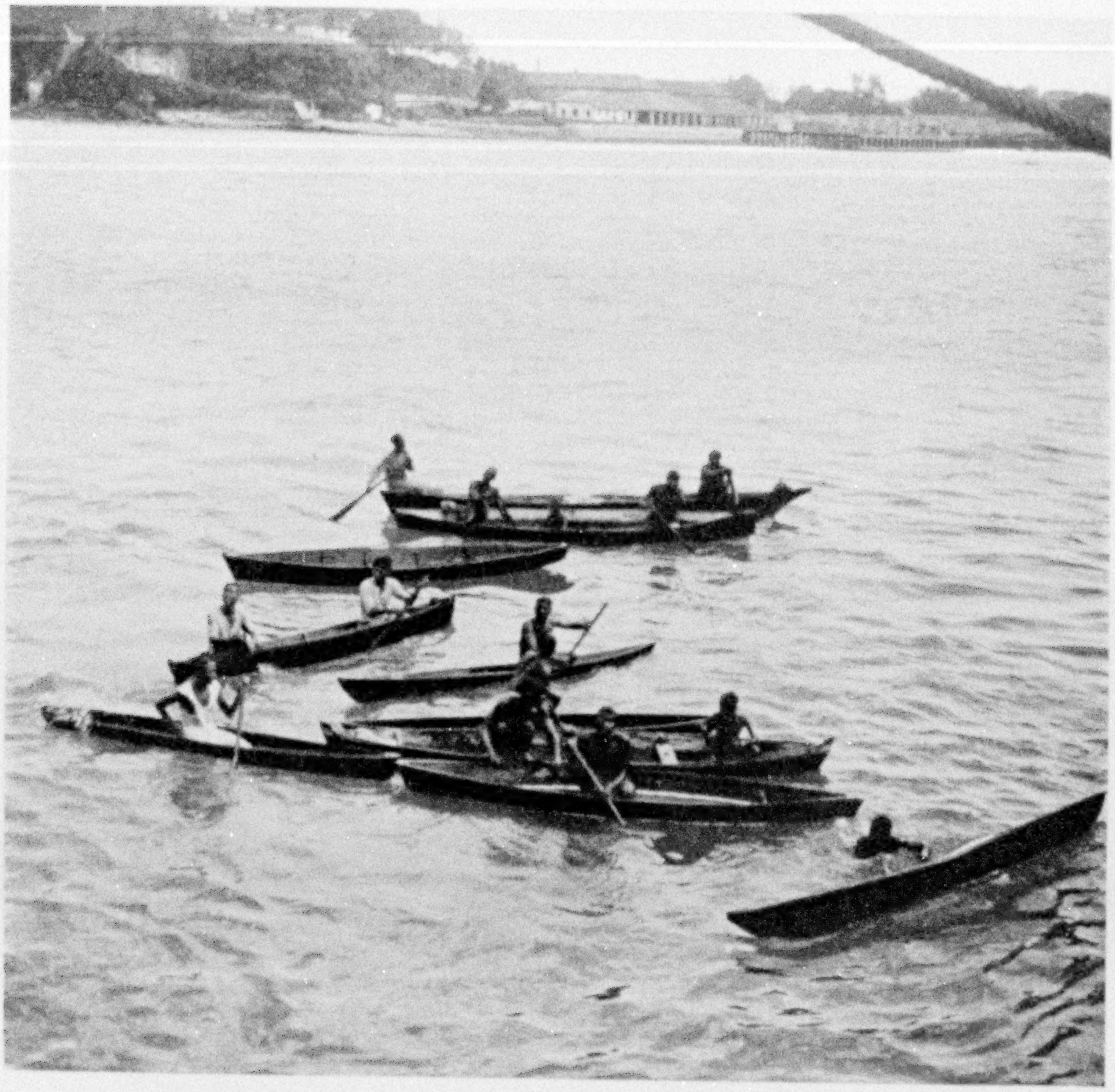
Where once the choking jungle crowded men back—a jungle so thick that a man swimming in a stream could hardly land because vines and plants hugged so close to the water's edge—broad fields have now been cleared, and Malaya plantations are among the richest in the world.

Forty-five years ago a few Pará rubber plants smuggled out of Brazil fruited here. To-day, three-fourths of the world's

---

* See "Hunting the Chaulmoogra Tree," by Joseph F. Rock, in the NATIONAL GEOGRAPHIC MAGAZINE for March, 1922.

† See "From London to Australia by Aëroplane," by Sir Ross Smith, K. B. E., in the NATIONAL GEOGRAPHIC MAGAZINE for March, 1921.



DIVING FOR COINS

Young Malays in dugout canoes paddle out to meet the Singapore steamers, and shriek and wave for the passengers to toss money into the water. They bail the canoes with a sweep of the foot, keeping regular time to the paddle's dip (see, also, text, page 248).

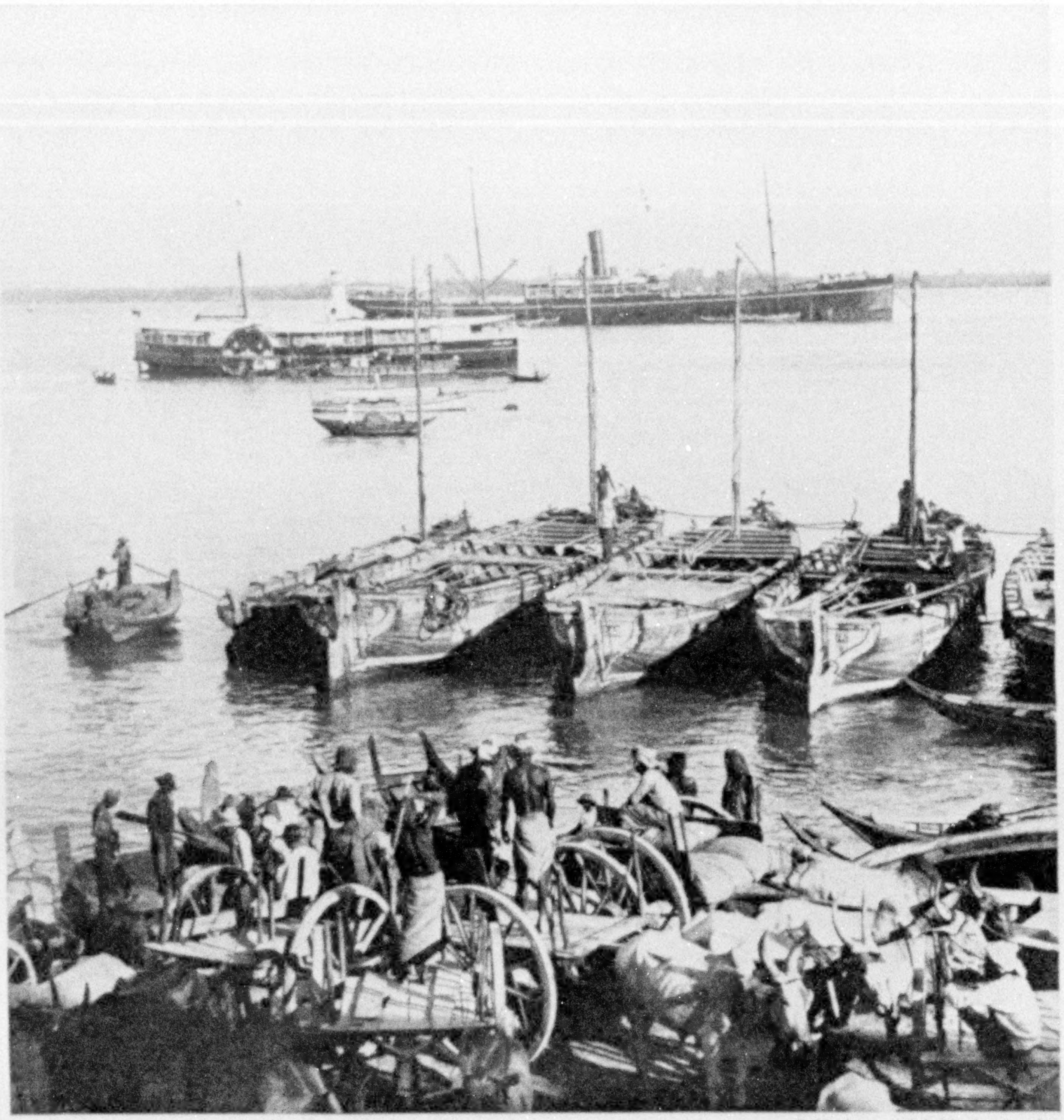
rubber comes from this region. And in this magic development Americans have played a leading rôle.

This Malay Peninsula, stretching hundreds of miles from the Siamese frontier down toward the Equator, forms a vast humid region of dense forests of jungle, wild elephants, snakes, and naked people, rice fields, rubber plantations, and tin mines. Few American tourists see it; those visiting the Orient usually turn back at Hongkong or Manila, and the average traveler from Europe goes no farther than Egypt or the Holy Land. Only the round-the-world tripper sees Malaya, and he usually gets a glimpse only of Singapore or Penang during his few hours ashore while his ship is coaling.

AT THE END OF THE MELTING POT OF ASIA

Singapore, built on a tiny green isle of the same name, which lies just off the end of the peninsula and nearly on the Equator, is the capital of the British crown colony commonly called the Straits Settlements. This colony embraces the Province Wellesley, the Dindings and Malacca on the mainland, and the islands of Penang and Singapore.

The Federated Malay States, on the peninsula, comprise the States of Perak,



© Underwood & Underwood

A CLOSE-UP OF "S'PORE'S" HARBOR

The harbor of "The Crossroads of the East" is a land-locked sea, which shelters a countless variety of vessels. They typify the romance of commerce, for the port is primarily a trans-shipping point for both imports and exports. To it, in all their unique picturesqueness, come native junks and sampans with tin, rubber, and other Malayan products; larger ships from the China Seas, with silk, fruit, pottery, rice, and manufactured goods from Japan; and ships from Australia with meat and wool. Quays and anchorages also serve the familiar freighters of the West and the "ladylike" liners of Kipling. The residents of this colony near the "Line" often speak and write it as "S'pore."

Selangor, Pahang, and Negri Sembilan. Kuala Lumpur is the capital.

Just opposite Singapore, on the mainland, is the independent native State of Johore, which has its own sultan and government, but which is under British protection. The British Governor of Singapore is also High Commissioner for the Federated Malay States and Brunei and British Agent for North Borneo and Sarawak, thus linking up British possessions and spheres of influence in all Malaya and establishing close contact, through one man, with the Colonial Office in London.

More than fifty steamship lines and its

Photograph by A. E. Pfahler

A RUBBER PLANTER'S HOME

The rubber boom of 1910 made fortunes for the planters in the Far East and caused a rubber rush of astonishing proportions. Estates were established all over British Malaya and many coconut plantations gave way to provide space for the new product, while coffee trees were hastily interplanted with rubber. More than 2,000,000 acres are now planted in rubber in this region.

cable net and radio stations tie Singapore up with adjacent regions, and British Malaya, the Dutch East Indies, and Siam constitute a unit in commercial geography which centers at the great port.

"The Melting Pot of Asia," they call this prolific, potent peninsula, because of the babel of races, colors, and castes which its wealth of rubber and tin has drawn to it. But in all this industrial army of Europeans, Chinese, Japanese, Tamils, Hindus, and assorted South Sea Islanders, the Chinese are the most numerous and powerful.

THE CHINESE ARE THE MILLIONAIRES

The Malay himself is too lazy even to be a good fisherman. He grows a little rice, a few coconuts, and nets the fish he needs, but Nature is so kind that it is said one hour's effort a day will support him and his family.

It is the Chinaman who is the tin miner, the farmer, shopkeeper, artisan, contractor, and financier. The Tamil and the Hindu add to the stock of local labor and own small farms and herds, but the many millionaires made in Malaya have mostly been Chinese. The palatial homes of the rich Chinese bosses in Singapore and Penang, in contrast with the miserable shacks of the natives, afford proof enough of the singular commercial superiority of the Yellow Race.

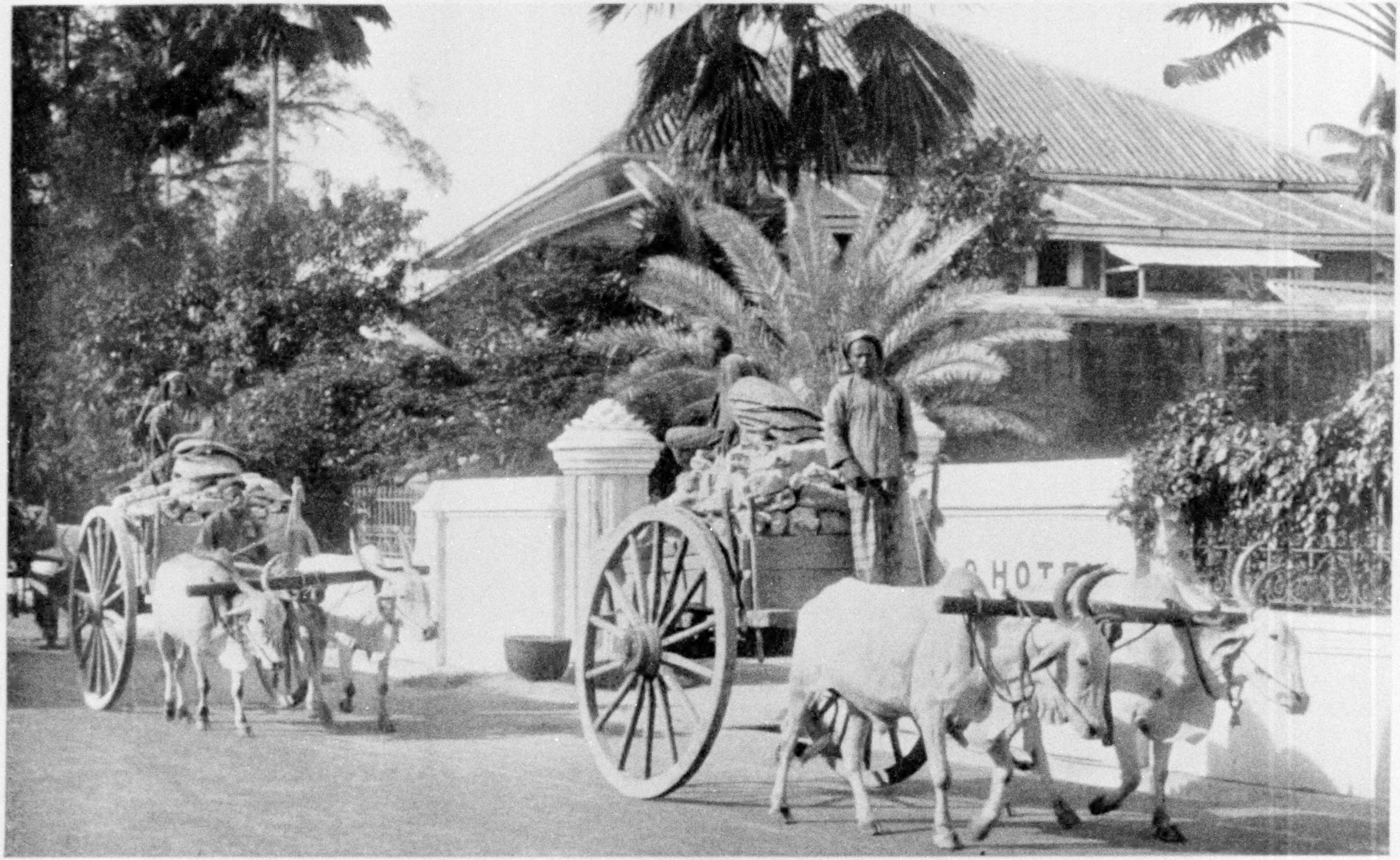
Here, indeed, Chinese immigration has worked a modern miracle in the magic reclamation of this once reeking, fever-cursed, jungle-grown wilderness. The Chinese it was who first braved the poisonous darts of the lurking savage, the perils of tigers and reptiles, the flames of fever, and the danger of dysentery, to conquer these jungles and dig the tin that put Malaya on the map of the trading world. Chinese say that tin "grows," and they use the divining rod to locate it.

For sheer courage and determination, the tale of Chinese colonization in Malaya is probably without parallel in the history of great racial migrations. To-day many

© Burton Holmes from Galloway

A FOREST OF PLANTATION RUBBER IN THE STRAITS SETTLEMENTS

The 22 rubber trees which fruited in Singapore in 1881 started the Malay Peninsula on the road to the proud position which it now occupies as the world's largest producer of rubber. It has three-fifths of the world's total acreage of plantation rubber and supplies the greater part of that which comes to the United States to meet the ever-increasing demands of the automobile industry.



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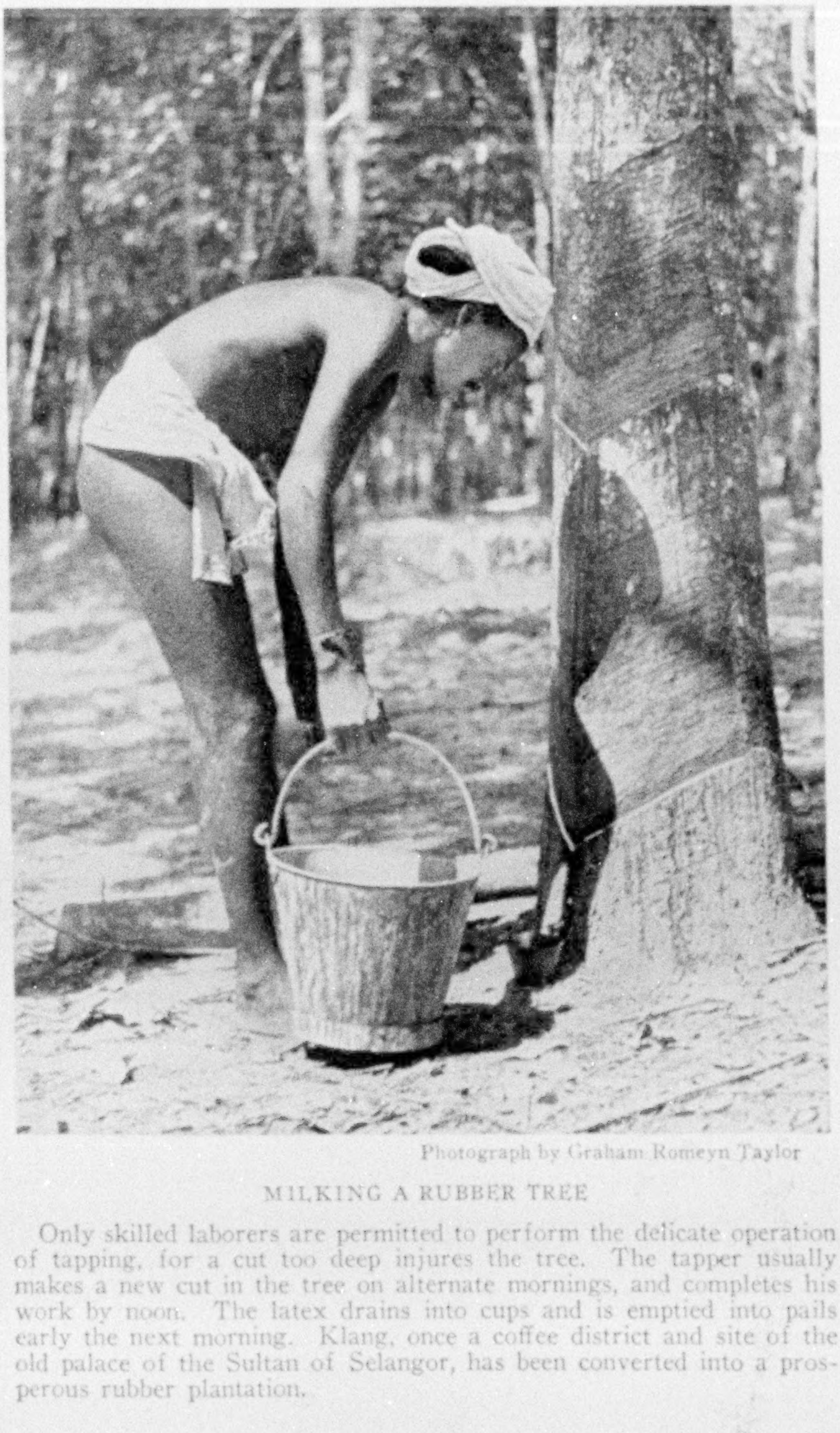
RUBBER IN CHUNKS ON THE WAY TO GEORGETOWN'S WATERFRONT: PENANG ISLAND

This quality is inferior to sheet rubber (see page 248). In addition to handling tin and rubber and other products of the Peninsula, Penang is an important coal- and water-supply station for merchant and war vessels.



Photograph by Graham Romeyn Taylor

MILKING A RUBBER TREE

Only skilled laborers are permitted to perform the delicate operation of tapping, for a cut too deep injures the tree. The tapper usually makes a new cut in the tree on alternate mornings, and completes his work by noon. The latex drains into cups and is emptied into pails early the next morning. Klang, once a coffee district and site of the old palace of the Sultan of Selangor, has been converted into a prosperous rubber plantation.

of Malaya's leading bankers, merchants, and planters, as well as its government servants, are men of the Yellow Race.

THE JINRIKISHA COOLIE—A STRIKING STUDY

Here, as in other great cities of the Far East, the 'rikisha coolie plays his rôle. More than 10,000 men run the streets, pulling jinrikishas, wearing usually but two garments—a straw hat, shaped like an inverted washpan and varnished with fish oil to make it waterproof and a pair of knee-length blue cotton pants. Arms, bodies, legs, and feet are always naked, glistening with perspiration in the hot sun.

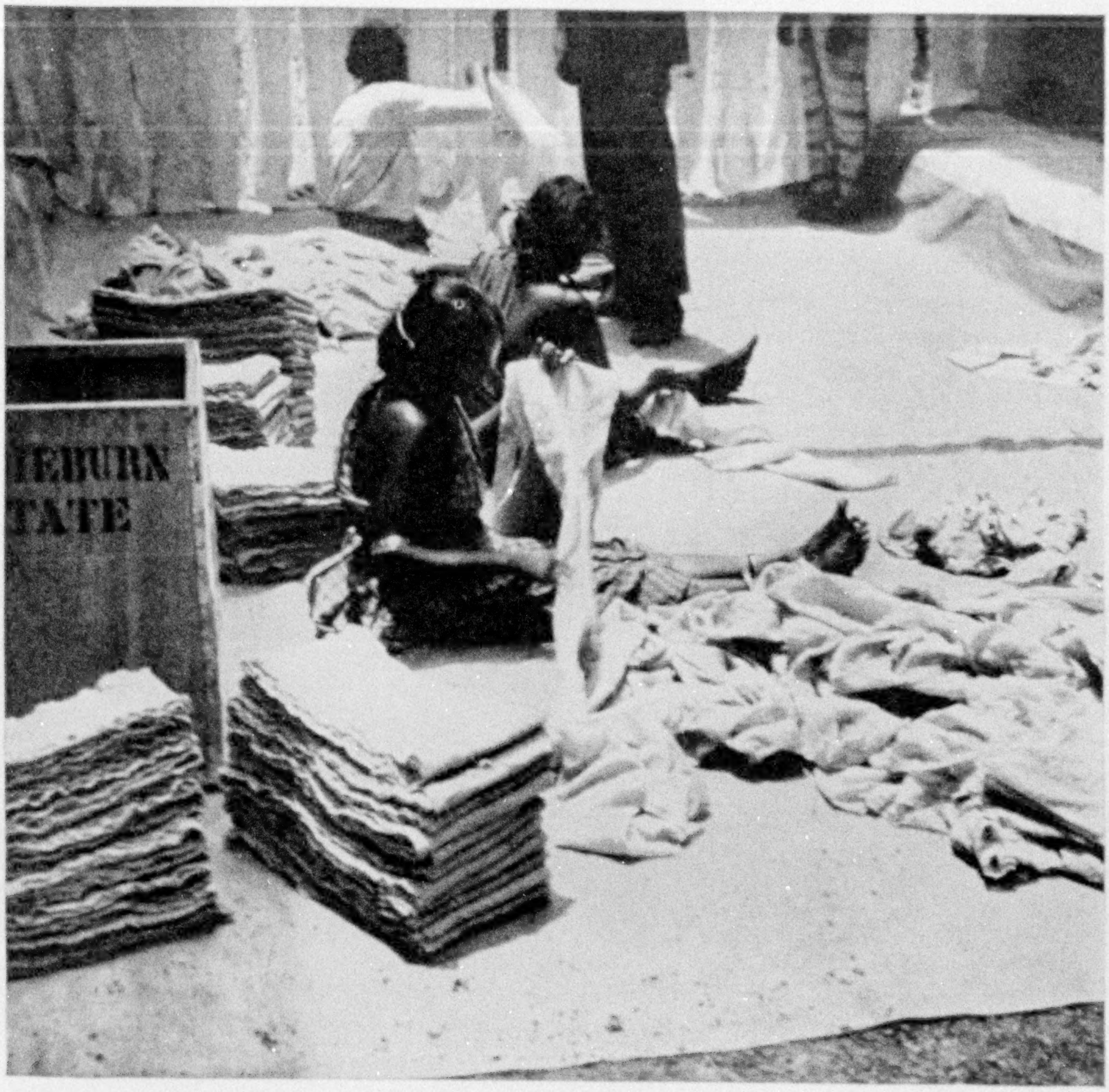
A striking study in human anatomy is the running jinrikisha man, with muscles playing beautifully, and a marvel of endurance! Two passengers ride in the second-class jinrikishas; but, even with this extra-heavy load, the coolie will trot his six miles an hour, and run, with only brief breathing spells, from sunup till dark. When you consider his tremendous daily physical effort, you wonder how, on his meager ration of rice and dried fish, he keeps fit.

CRUISING ALONG 60 MILES OF SINGAPORE ROADS

Coaling is done by coolies, with a basket swung in the middle of a long pole carried between two men. The labor is paid at so much per basket, and the speed at which a ship can be coaled here is astounding. Recently, 21,000 baskets of coal, over 1,500 tons, were put on a ship in five hours.

Nature's motion picture, as your ship swings into the narrow, sixty-mile-long Singapore Roads, is like a vision of some fabled Dream Isles of Delight. Fairy isles they seem, floating on a turquoise sea, wooded, jungle-gowned in brightest green, miraculously broken off and cast adrift from Sumatra and Malaya.

Cruising through these straits, your



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FOLDING RUBBER TAKEN FROM THE DRYING POLES

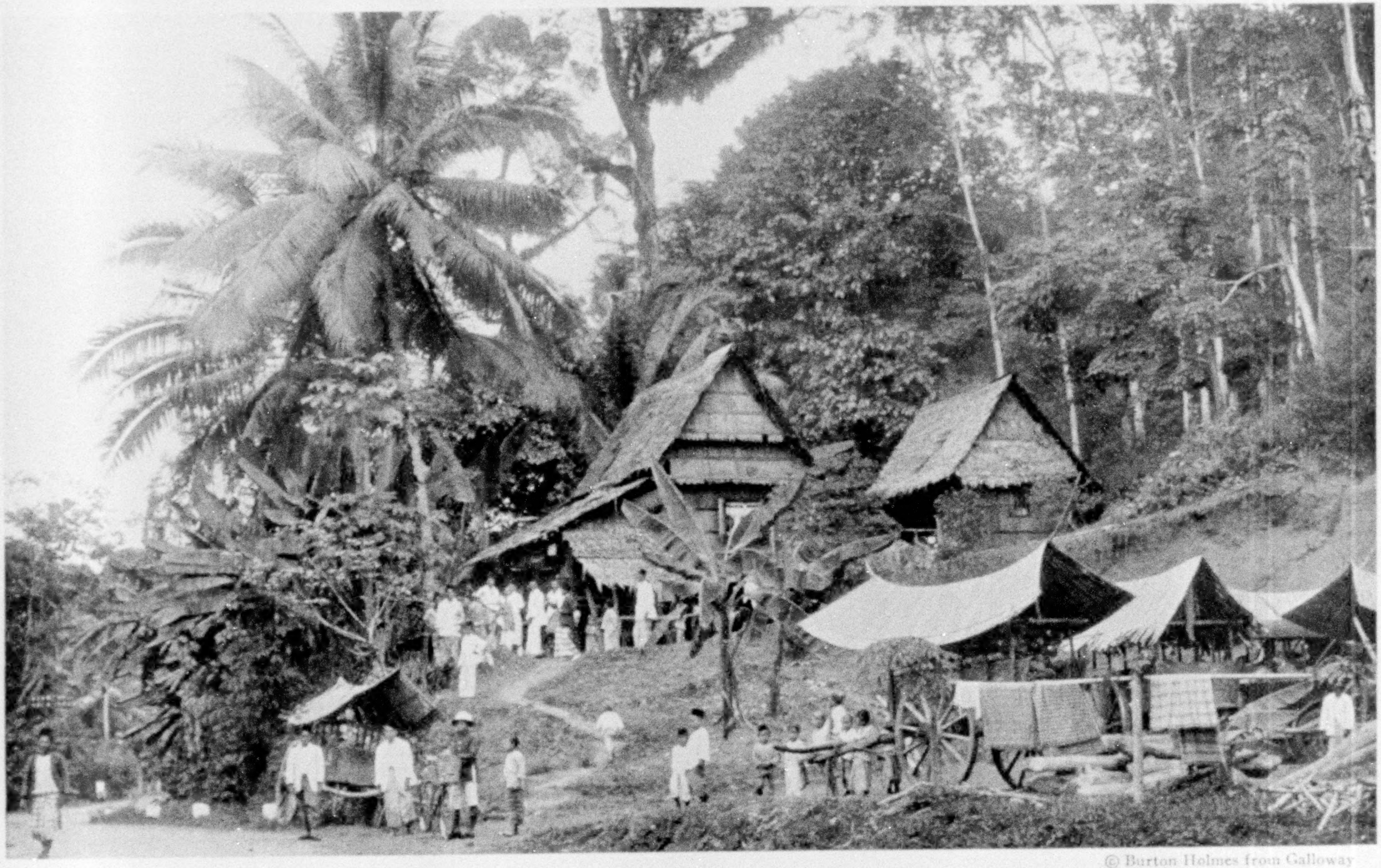
Unsmoked rubber is white, while the smoked sheets are dull-colored. Many different kinds of sheets are produced, according to conditions of coagulation and smoking. Rubber is smoked much as is ham and must not be made too hot.

ship creeps so close to certain isles that you can actually see the natives going about their daily life, and you can clearly make out the intimate details of the tiny palm-leaf shacks, which stand on stiltlike piles out over the water.

But on certain hot, steamy days in early autumn, when no air stirs and the tide has run very low, these islands, on closer inspection, are not all so charming. Then the receding waters leave vast, flat banks of slimy, stinking mud, alive with crawling creatures pursued by long-legged birds; and the myriad mangrove trees that hug the shore are left standing with their naked, crooked roots all exposed—an oddly repellent picture, suggesting the wet, slippery coils of a million monster serpents, their bodies all twisted together, seeming to crawl in and out of the foul, steaming ooze.

You are glad, then, when your ship has poked her restless nose past these reeking mud flats and you come to the anchorage, tying up amid as strange a fleet as ever the sun shone on (p. 253).

Boats by the hundreds, of every conceivable type and size, built anywhere from Amoy to Aden, swarm in these straits. Clumsy Chinese junks are here, some laden with palm thatching for making roofs or with firewood; occasionally



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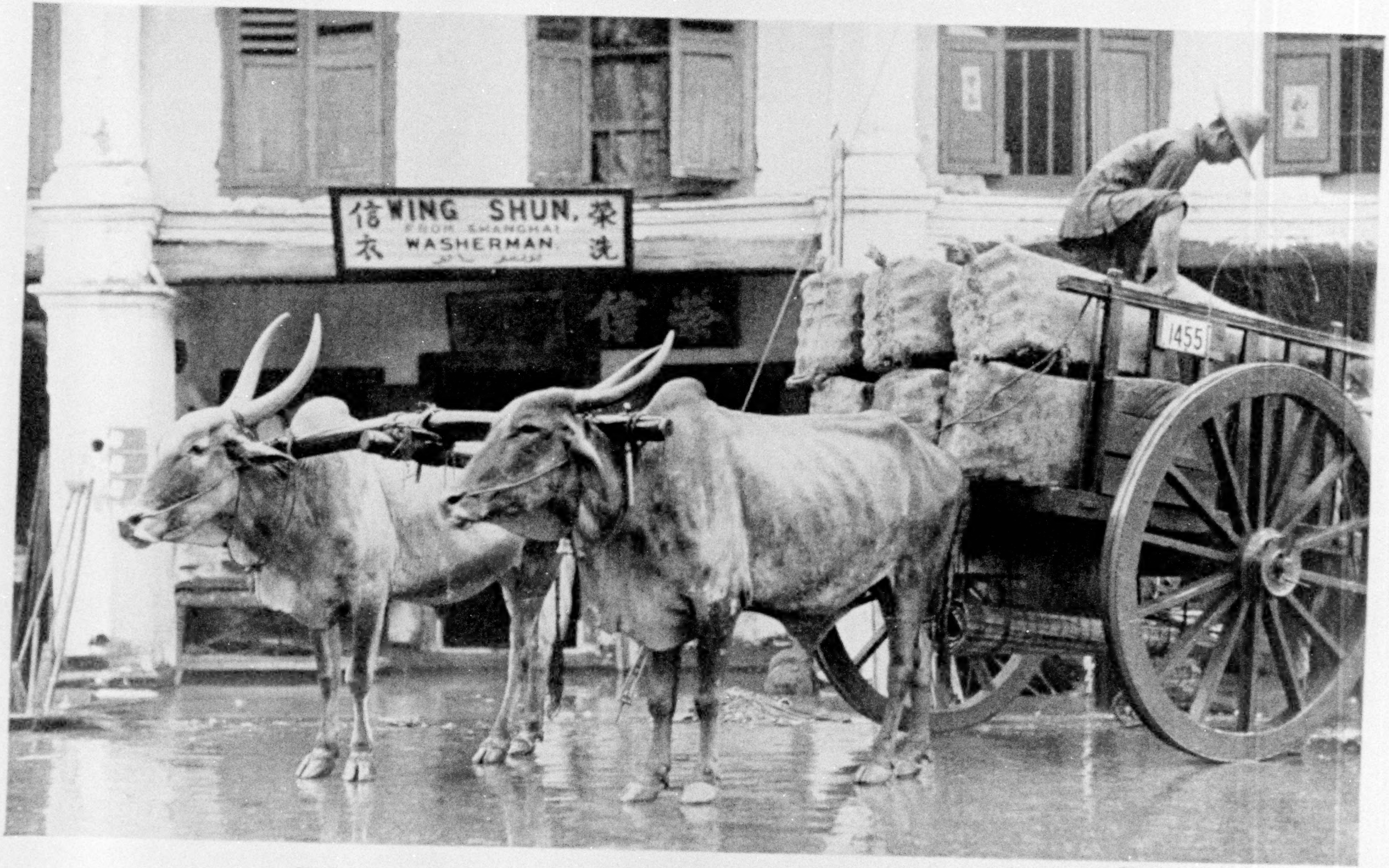
HOW THE RUBBER PLANTATION WORKERS LIVE IN THE STRAITS SETTLEMENTS

The laborers are Tamils (from India), Javanese, Malays, and Chinese, the first constituting more than half of the total number. So important is the Indian workman to the prosperity of Malaya's plantations that both planters and government officials do their utmost to make his surroundings healthy and comfortable.


榮 信
WING SHUN,
FROM SHANGHAI
WASHERMAN
洗 衣
1455

Photograph by Alfred Chial

HUMPED BEASTS OF BURDEN ARE FAMILIAR SIGHTS IN SINGAPORE'S STREETS

Brahman, or Zebu, cattle are believed to be natives of India, where large numbers are kept as draft animals. They are also meat and milk producers. Mr. Wing Shun, whose sign is displayed in the background, advertises his profession frankly.

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HAULING CRUDE-RUBBER SHEETS

Every blow-out means increased business for Singapore, for in its "godowns," the warehouses of the East, is handled the major part of the world's finest rubber prior to its long journey to American factories.

one of the low-built, evil-looking *bugies* of Celebes, so long infamous in the slave trade, may be seen hereabouts.

Then there are the old, unwieldy but very seaworthy *baggalas* of the same type, known to Sindbad and Albuquerque, coming from the Indian coast or even from Maskat, equipped with galleylike sweeps for use if becalmed, and manned by half-nude, oily-looking men of Maskat, Madras, or Ceylon.

STRANGE CARGOES

Local Malay boats of every size and shape abound, from the dugout catamaran with outriggers to the fancy barge with elaborate teak-finished cabins for the Malay ladies of the upper lords.

Swarming about your ship in their bobbing canoes, little Malay boys come to dive for nickels, for do not all American sahibs observe the odd custom of throwing money into the sea as they approach a tropic port? (See page 239.)

One sees some odd cargoes here. I recall one power schooner that came up from Borneo crowded with crates and cages. She drew alongside a liner to transship, and every time the big sling swung up with a crate or cage there came squeals or growls or a smell remindful of the "big top" and circus days back home. It was a whole shipload of wild animals bound for a zoo in Europe.

One hundred years ago Yankee clippers used to come here and sell cargoes of ice!

When the northeast monsoon blows, flocks of junks come down from Cochin China, bringing live pigs, sugar, and rice. Others, beating over from Sumatra, are laden with kerosene, while those from the coast of Johore bring tapioca, and down from Siam come great cargoes of valuable teak.

TEAK, THE MOST USEFUL OF ALL WOODS

This teak, most useful of all woods, is famed for its amazing durability. In the old cave temples of western India teak beams have been found, solid and sound, which must have been put in place 2,000 years ago. Once seasoned, it does not

© Burton Holmes from Galloway

CONNAUGHT DRIVE AND THE WORLD WAR MEMORIAL: SINGAPORE

Shifting land and sea views, a refreshing breeze, and shade from tropical trees make this one of the most popular of Singapore's many picturesque drives.

warp or split; nor will it decay, like oak, when in contact with nails; and the white ants, enemies of most other woods, will not eat holes in a teak beam.

On the Peninsula many teak plantations have been planted to produce lumber for use in railway coaches, the interior finish of steamers, in furniture, and wherever a hard, durable wood capable of taking a brilliant polish is desired.

THE CLEARING HOUSE OF ALL THE EASTERN SEAS

Here all trade is free, except for the tax on tobacco, liquors, and opium, and Singapore is the great clearing house for all these eastern seas.

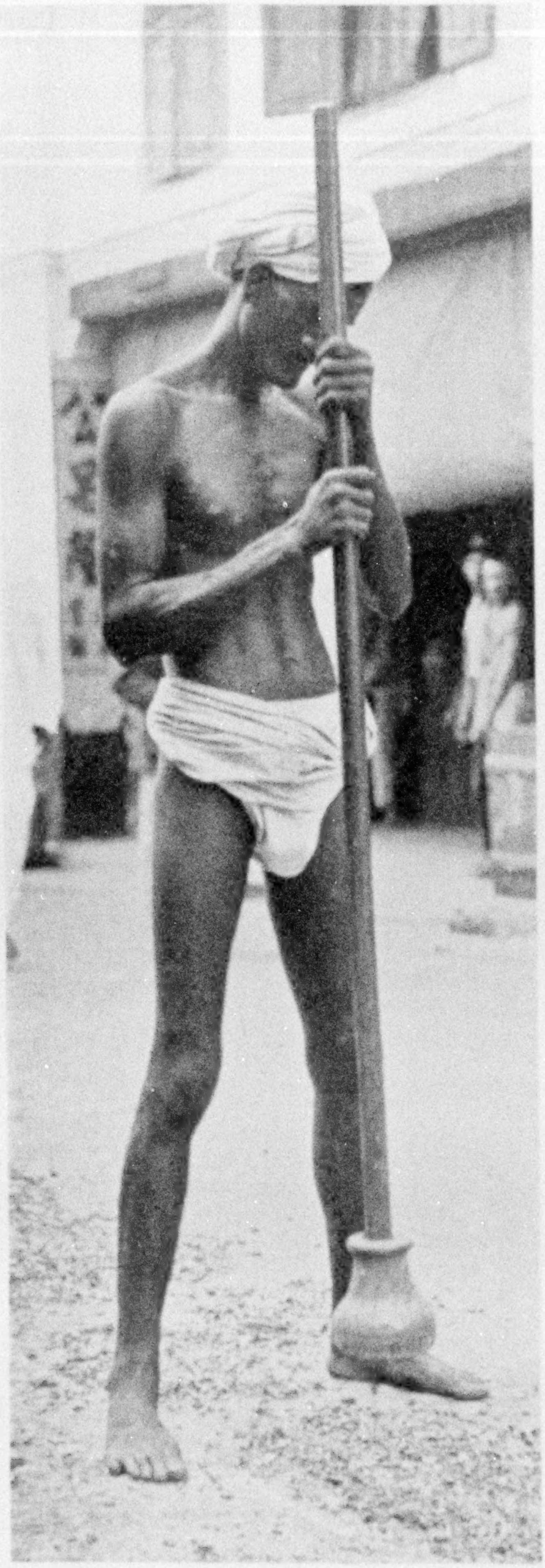
In the heat of the commercial fray, his shrill cries easily heard above the tumult of Tamil and Hindu haggling, the Chinese mariner is in his glory. His junk may be a joke in other climes; but here, in the East, the sea is his, and he drives his craft wherever there is trade to lure him on.

These high-pooped, square-sterned junks of carved wood, with staring popeyes painted on their bows, and maybe carrying an obsolete gun or two—unchanged in centuries—still sail the typhoon-tumbled seas from Amoy and Hongkong to Singapore.

No seafaring risk is too great for these ancient navigators. Yet time and again a steamer puts in, somewhere hereabouts, and lands a crew of half-starved Chinese rescued from some water-logged junk, helpless after a futile fight with a typhoon.

In the days of pirates, fearful of being robbed, the cautious Chinese trader used to anchor some ways from shore. Then the native traders paddled out and came aboard with such gambier, pepper, tin, or birds' nests as they had to offer, and the swapping was done safely, on the deck of the junk.

Hunting edible birds' nests is just the sort of thrilling feat that appeals to the adventurous Malay. It means descending a frail ladder woven of vines or green rattan, climbing down maybe 75 or 100 feet, and swinging there, bumping against the side of a steep cliff and maybe above a roaring surf, to get at the swallow's nests, built on the narrow ledges.



Photograph by Graham Romeyn Taylor

MALAYA'S VERSION OF THE STEAM ROLLER

The Malay is usually described as lazy, but if allowed to work in his own way, he produces beautifully wrought objects in gold, silver, wood, and ivory. Many, like this street repairman, are employed in the government service.

The white man's life to-day in Singapore, as in other tropic parts, is easy and comfortable. The British and American trading firms are all staffed, in the higher positions, by men from the home lands. Servants are plentiful and cheap; office hours are fairly short, down in this equatorial clime, for the white man must have more recreation than in the colder countries of the north. So the city enjoys its race and athletic clubs, its amateur theatricals, and its social activities among the three or four thousand whites who comprise its foreign colony.

AMERICAN AND BRITISH COLONIES ENJOY LIFE IN SINGAPORE

Though a low-lying island, almost on the Equator, Singapore is not an unhealthful spot; in fact, infant mortality is so low that the town has been called the paradise of children. Hounds and beagles, however, imported for hunting purposes, do not do well, because of the heat.

Of late years, too, through the increase of cable and radio communications, the rise of huge industrial interests and the phenomenal increase of wealth through mounting rubber production, the more care-free and indolent colonial life of old has been galvanized into swifter action.

Here, as in other Eastern ports, the coming of the motor car has changed the whole aspect of life. Good roads have been thrust around the island, and many traders have built their bungalows far out from the business quarter of the port, out where not so long ago tigers used to kill and eat the Chinese truck gardeners. To-day a few deer and wild pigs are the only game animals on the island.

Yet the East meets the West here in the same eternal contrast. In the swelter and dust of a gaudy Chinese theater a troupe of Canton performers, with a skirted, painted man playing the leading feminine rôle, shout their shrill way through an endless oriental drama of love, intrigue, and murder; just across the street a modern movie, packed with Malays and Tamils, grinds out the Wild West horrors of Hollywood or the high society drama of Fort Lee, New Jersey.

In the open street a rheumatic Hindu fakir is busy rolling a tired little peeping chicken back into the form of an egg, or pulling blinking toads from the beard of an astonished bystander; swearing jinrikisha coolies, enraged at the invading auto, battle their way through the milling, jostling crowd, where the barefooted native servant in white cotton pants rubs elbows with the Eurasian dandy in hard-boiled derby hat and patent-leather shoes.

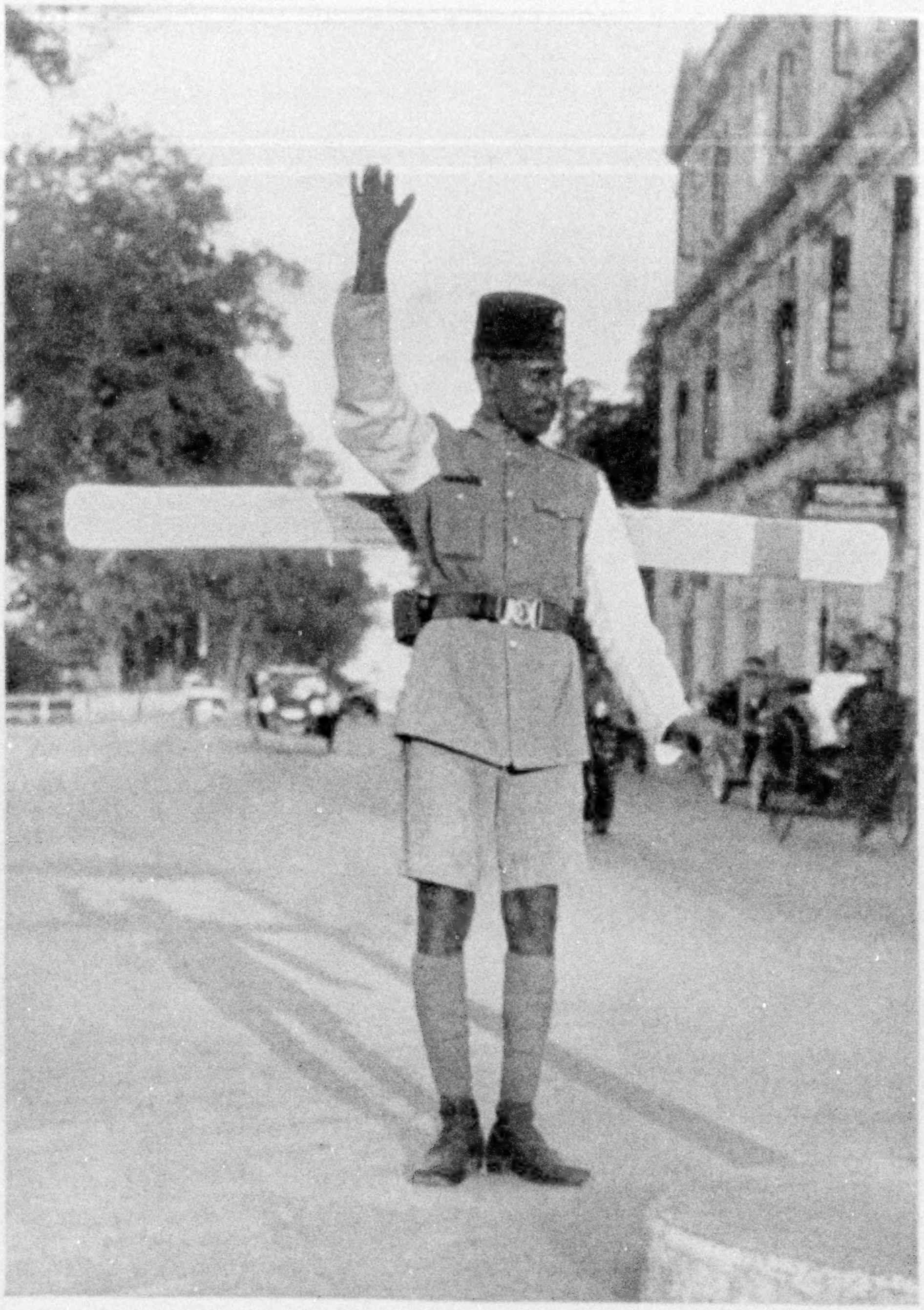
SINGAPORE GOES TO SLEEP EARLY

Here, near the Equator, days and nights are about equal; toward dark the din of barter and sale subsides and the streets begin to empty. The houseboat folk of the river and the wharf workers quiet down. Chinese shopkeepers shuffle out to put up their shutters. High above, the star pictures of heaven are hung out—the sprawling Scorpion and the majestic Southern Cross. Long before 10 o'clock this magic, mongrel city of tin, trade, and turbulence is sound asleep. No speeding joy rider, owl car, or roof-garden jazz breaks the delicious stupor of its repose.

But a night drive through Singapore's Botanical Garden, with a million insects and a mighty chorus of tiger frogs lifting their voices in jungle music, and the air heavy with the breath of equatorial vines and plants, moves one to wonder how men like Stanley and Livingstone ever got a good night's rest.

In Singapore, as in all the East, the faint grayish light which precedes dawn sees the native early astir, shivering in the misty fog, seeking the nearest beach. Filthy and squalid though his hut may be, his daily bath is a fixed institution. And dawn here is strangely beautiful. Transition from silent darkness to light—brilliant white light and the murmur of awakening life—is swift and startling.

From behind the flat, oily Eastern Sea the big, round, hot sun leaps like a blazing ball. Swiftly the fogs are fled, the fresh coolness of night departs. The wet streets, newly sprinkled, soon are dried and dusty again, and seething, sweltering Singapore, greatest mart between Hongkong and



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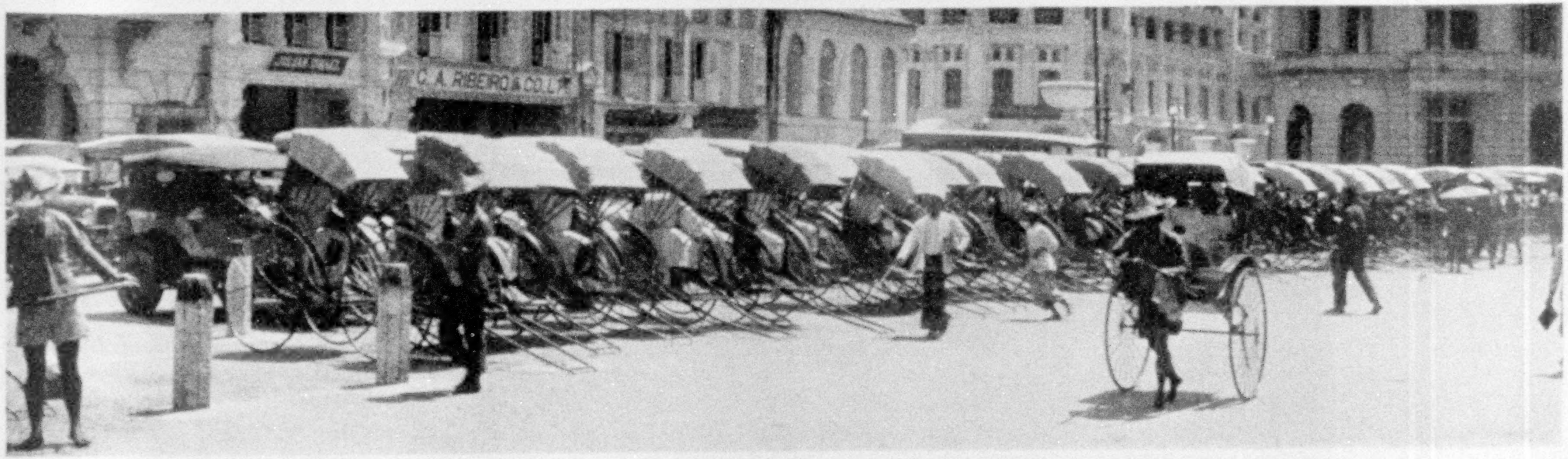
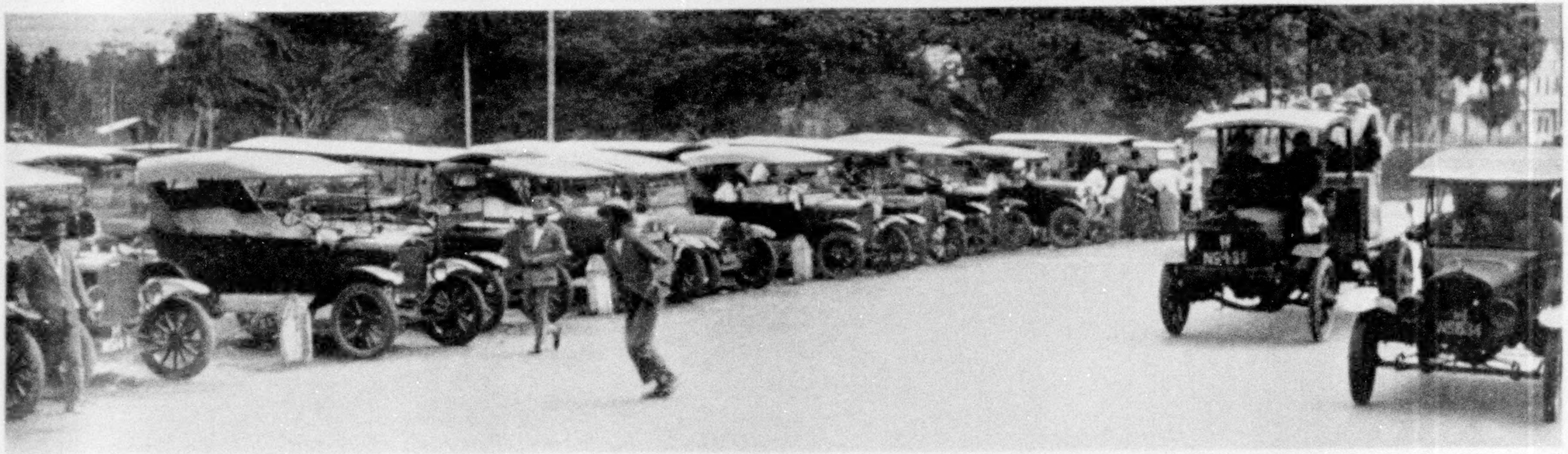
ONE OF SINGAPORE'S HUMAN SEMAPHORES

This native policeman straps a board on his back to supplement his arm signals. Throughout the city, wide, level roads have displaced the elephant paths which once led through the jungle, and the squawk of the motor horn has drowned the growls of the lurking tiger (see page 238).



THE OLD WAY: THE JINRIKISHA STILL HOLDS ITS OWN IN SINGAPORE

Though here, as in other Eastern ports, the advent of the motor car has changed the whole aspect of life (see text, page 250), more than 10,000 jinrikisha coolies trot their six miles an hour from dawn to dark. Raffles Place (above), where jinrikisha and automobile vie for parking space, is Singapore's commercial center.



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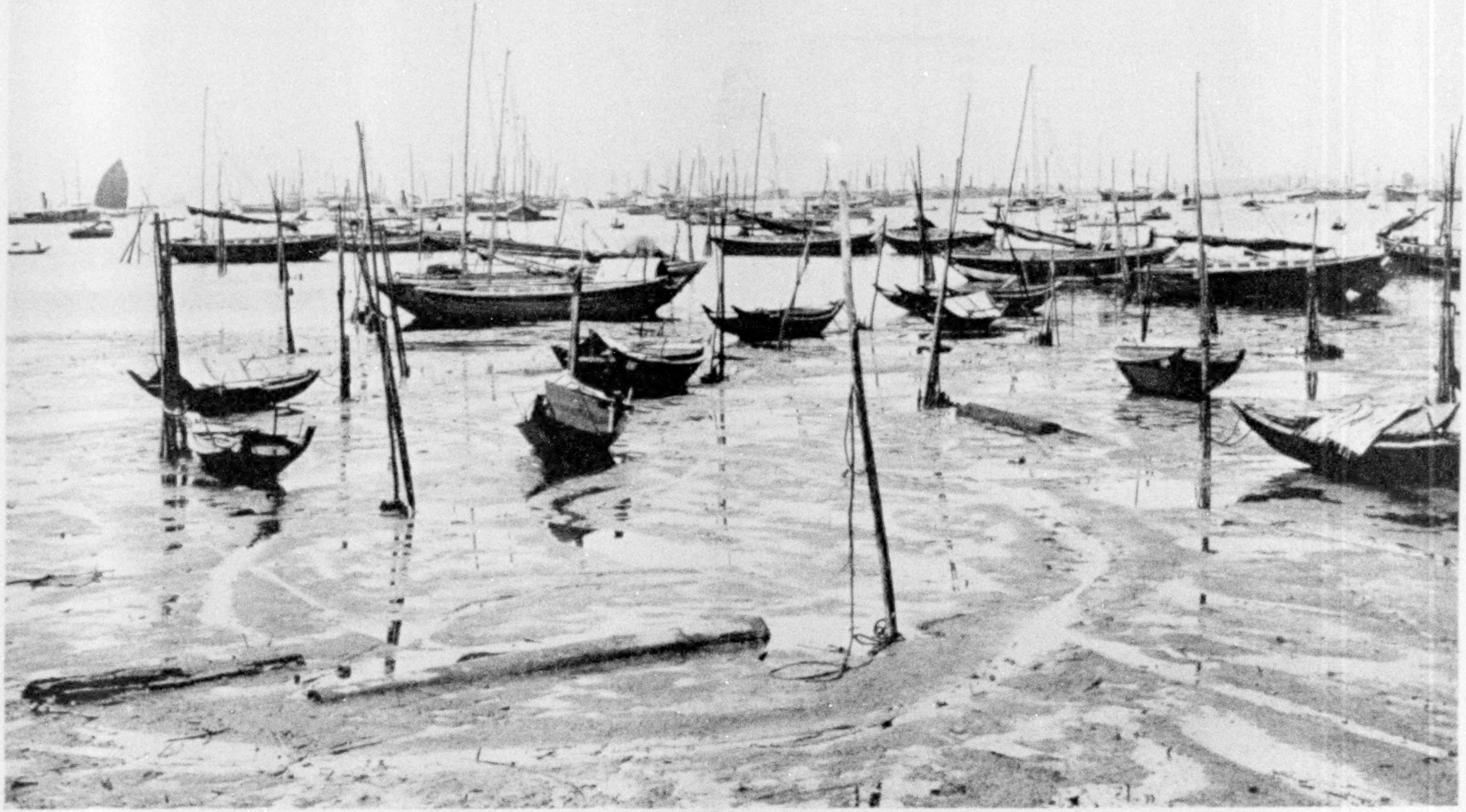
AND THE NEW: WHO HAS A BETTER RIGHT TO AN AUTOMOBILE THAN THE MAN WHO PRODUCES THE RUBBER FOR ITS TIRES?

These cars are parked in front of a wayside roadhouse between Kuala Lumpur, the beautiful capital of the Federated Malay States, and Malacca.



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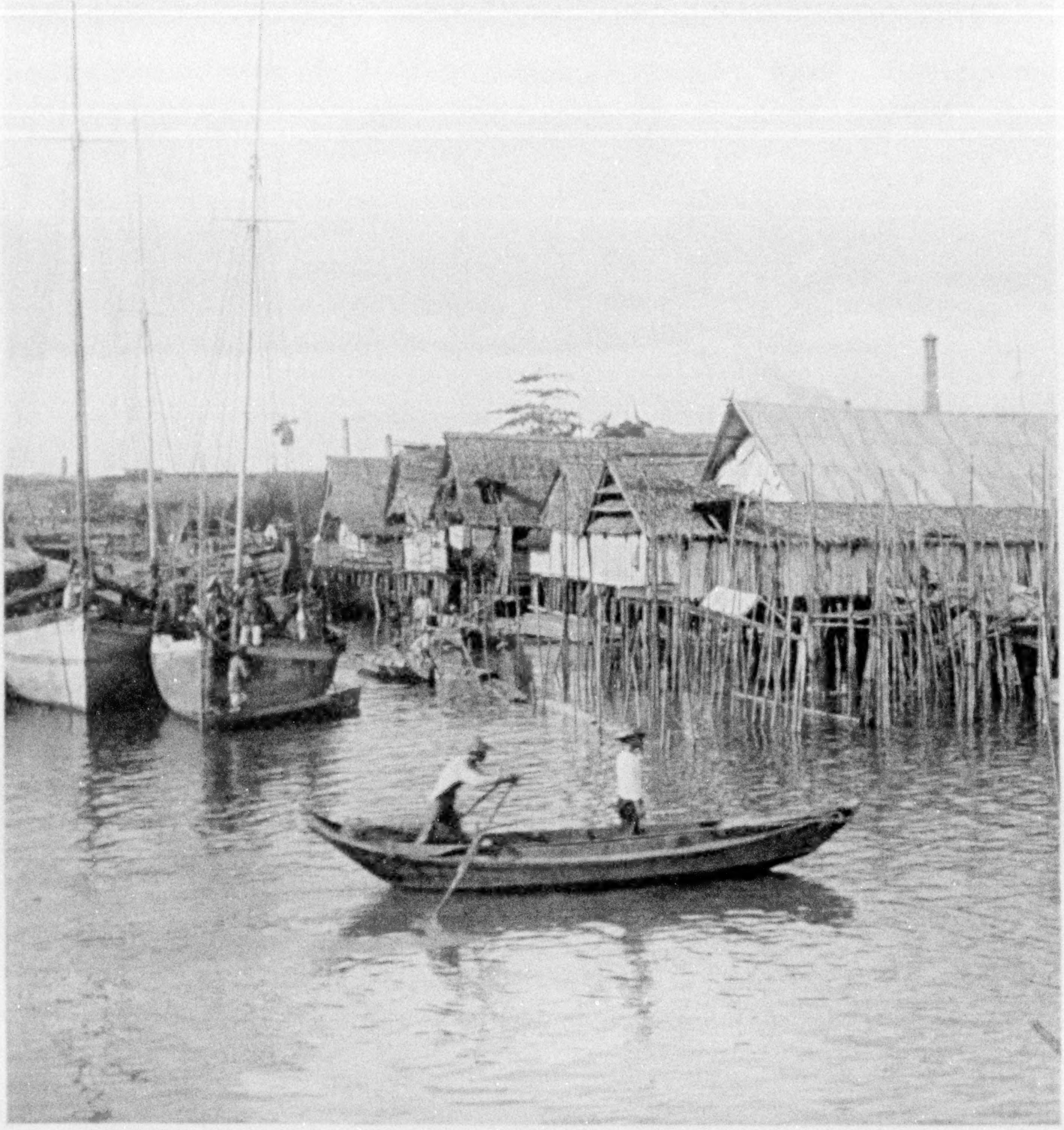
LOW TIDE

"On certain hot, steamy days in early autumn, when no air stirs and the tide has run very low, receding waters leave vast flat banks of slimy, stinking mud, alive with crawling creatures. . . . You are glad then when your ship has poked her restless nose past these reeking mud flats, tying up amid as strange a fleet as ever the sun shone on" (see text, page 245).



Photograph from Galloway

THESE NATIVES HAVE EVADED LAND TAXES BY BUILDING THEIR HOMES ON STILTS OVER THE WATER

Gray and brown houses, covered by a sloping mat roof, stand upon piles and form a kind of rustic Venice in the shallow waters adjacent to the Crossroads of the East.

Marseille, settles down to another sticky day of battling barter and trade.

A PARADISE FOR THE NATURALIST

Round about Singapore, on land and sea, the naturalist finds a paradise. As in all English settlements, the roads and trails are good, and it is easy to get about the island, and to visit the Chinese and Malay *kampongs*, or villages, the enchanting gardens, and even to explore what is left, near at hand, of the jungle.

To the angler, Singapore's noisy, redolent fish market offers not only a startling study of life from Eastern seas, but it proves how many different kinds of edible fish there are in the ocean.

Here, instead of wrapping paper, great green leaves are used, and, judging from the fussing and "jewing down," there is no such thing as fixed prices. The haggling and quarreling are positively picturesque. No oriental din anywhere, not even in the Bagdad bazaars on the morn-

A STATELY ROW OF BETEL-NUT PALMS

All classes of Malays love and chew *siri*, a cheering, peppery stimulant derived from bits of betel nut wrapped in vine leaves and sprinkled with lime (see text, page 265). The beautiful betel palm may be found growing near every home, and, though it is rarely seen in large plantations, its nuts make an article of considerable internal trade, which is wholly in the hands of Chinese, Arabs, and other orientals.

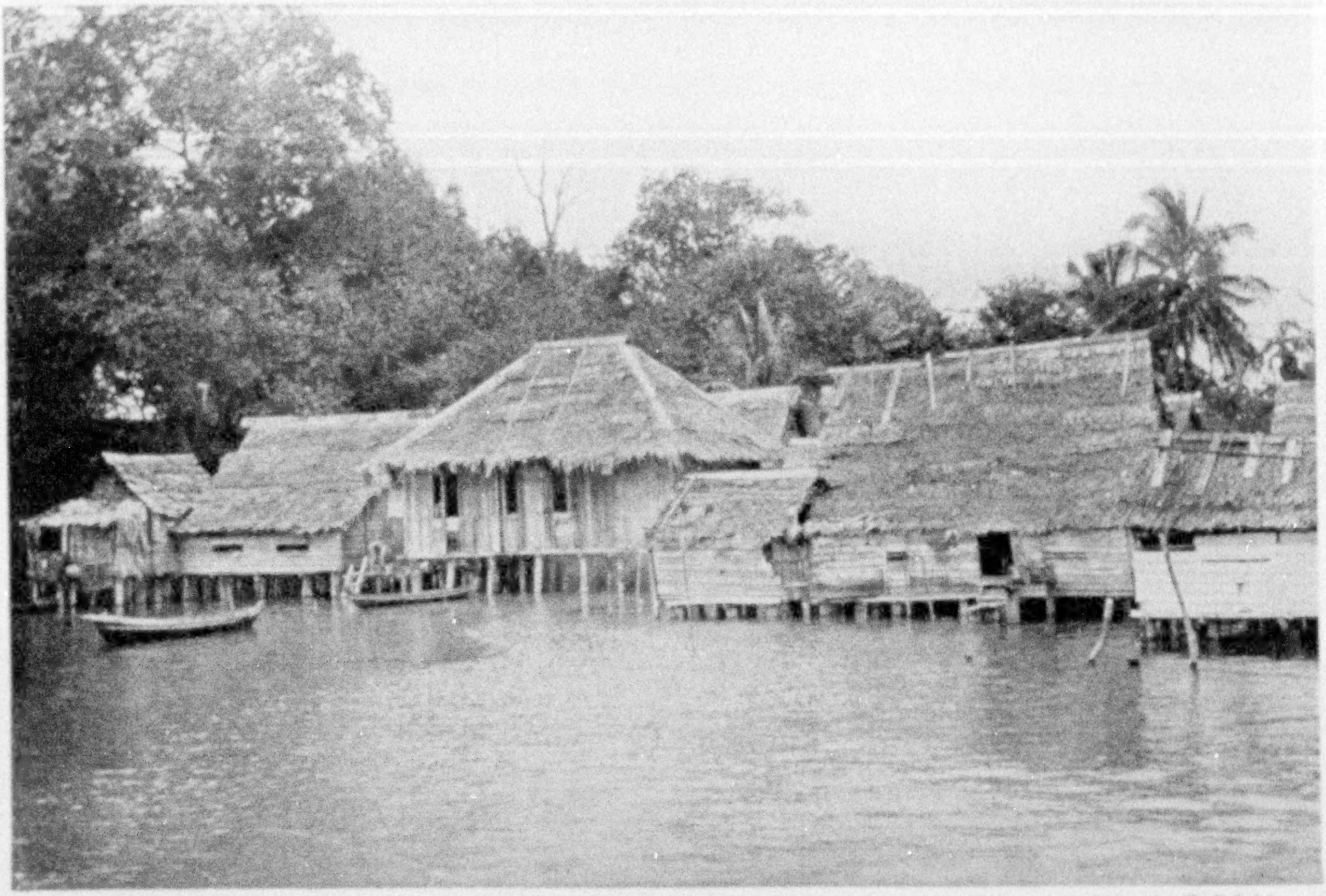
ing after a Hebrew holiday, can exceed the sunrise uproar in the Singapore fish market, when cooks and housewives are battling for shark meat, sting rays, inkfish, mussels, long-tailed crawfish and short-tailed crabs, snails and slugs, to say nothing of the edible worms eagerly bid in by Chinese epicures.

NOISY RATS AND FLYING FOXES

Hard by is the fruit and vegetable market, supplied by Chinese gardeners, who squat about their stalls, shoveling down their breakfasts between calls from customers.

From Malaya comes the famous "noisy rat," a strange wild rodent rarely seen in captivity. It is described as being of a bright-chestnut color, with a big head and long, black tail, and much larger than even the wharf rats of China. It gets its odd name, and is so seldom seen in captivity, from the fact that when caught in a trap in the jungle, where it lives, it emits such loud and continuous squeals that leopards, panthers, or other prowling and hungry members of the cat family are soon attracted to it and devour it.

Then there are the flying foxes, that hang all day body downward, holding on



Photograph by A. E. Pfahler

STILTED HOMES (SEE, ALSO, ILLUSTRATION, PAGE 254)

Boatmen's children find the water and the canoe beneath their homes a better playground than land.

by their claws to the limbs of trees. If one shoots into such a tree, which looks from a distance as if it held some odd, wriggling fruit, these foxes let go and wheel about, squealing and snarling, but only soon to settle down again, hanging by their feet. At nightfall they drop off into the air and glide away to hunt, mingling with other bats that whirl and flutter about at dusk, like black rags in a whirlwind.

Here, too, because mosquitoes are hungry and determined, Nature is right on the job with her antidote, the aromatic citronella grass. From it the people of Singapore distill an oil so pungent that when hands and face are rubbed with it even the hungriest mosquito quickly quits his feeding ground.

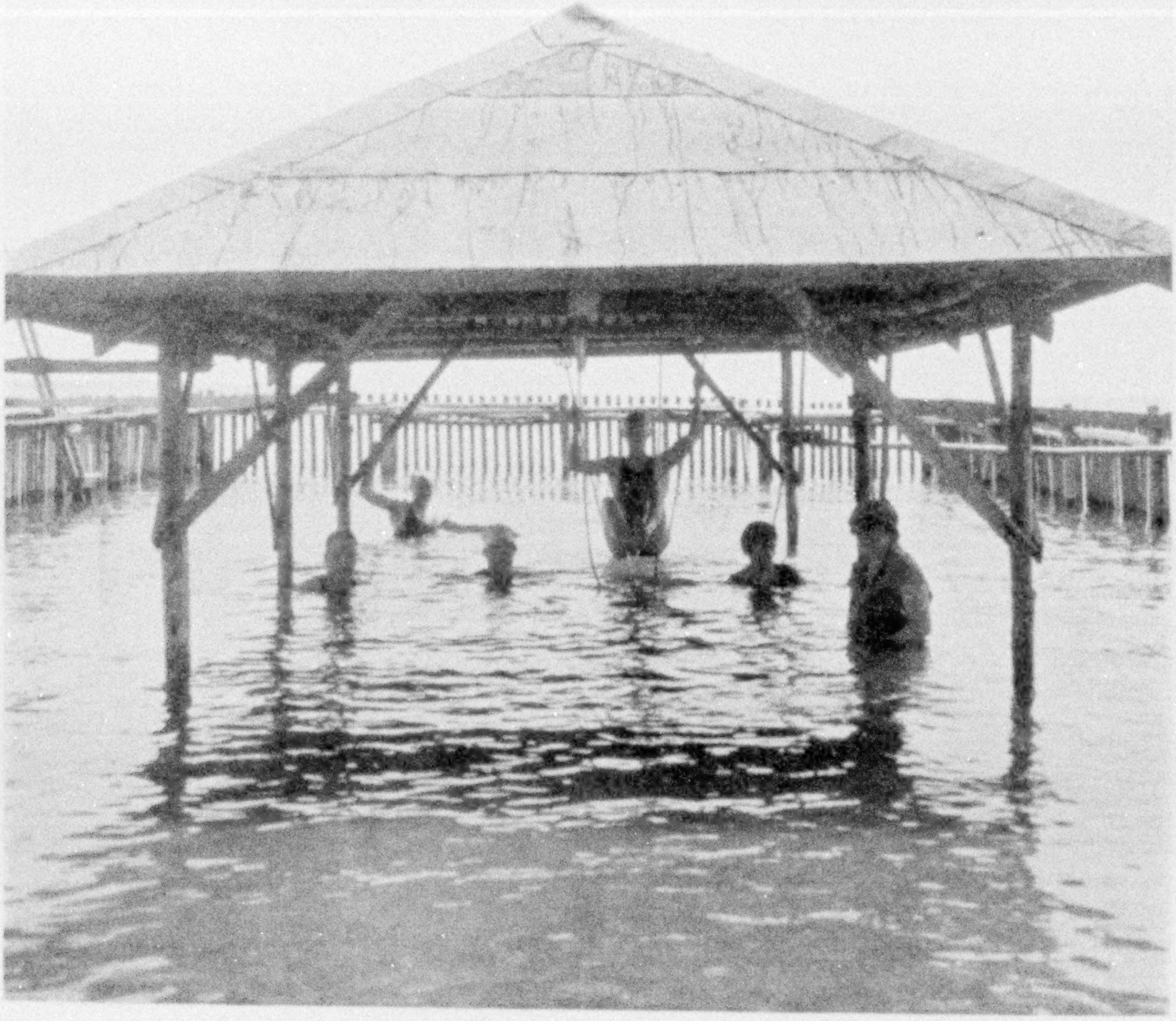
Among the orchids are the "can plants" (Nepenthes), with their little cuplike traps, half filled with water and their lids partly raised, to trap prowling insects; so that the natives say these flowers catch and eat the bugs.

The more fragile, delicate orchids are grown under cover, otherwise the violent rains would destroy them. The hibiscus and poinsettias can stand the hardest deluge, but many flowering plants lose their blossoms during the more torrential downpours.

THE DURIAN AND THE MANGOSTEEN DELIGHT THE EPICURE

Along these same waters one finds that peculiar exhilarating fruit, the durian. Strangely stimulating it is—"like a shot in the arm," American sailors declare—a fruit with a kick, a fruit that old Malays clamor for. As our plantation darkies sing of the watermelon smiling on the vine, so the simple natives of these Eastern seas chant their grateful praises of this durian fruit.

To the European the quest of the durian is not without its perils. The tree grows to a height of 80 or 90 feet and the fruit itself is nearly as big as a punching bag—and covered with hard, sharp points. Loitering under such a tree during a windstorm, or when the ripe fruit is falling, is so dangerous that careless people are often badly hurt or even killed.



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A SHARK-PROOF BATHING BEACH

The inclosure is popular with the more timorous residents, but the youthful Malays, who dive in the Singapore harbor for coins wheedled from tourists (see illustration, page 239, and text, page 248), seem utterly fearless.

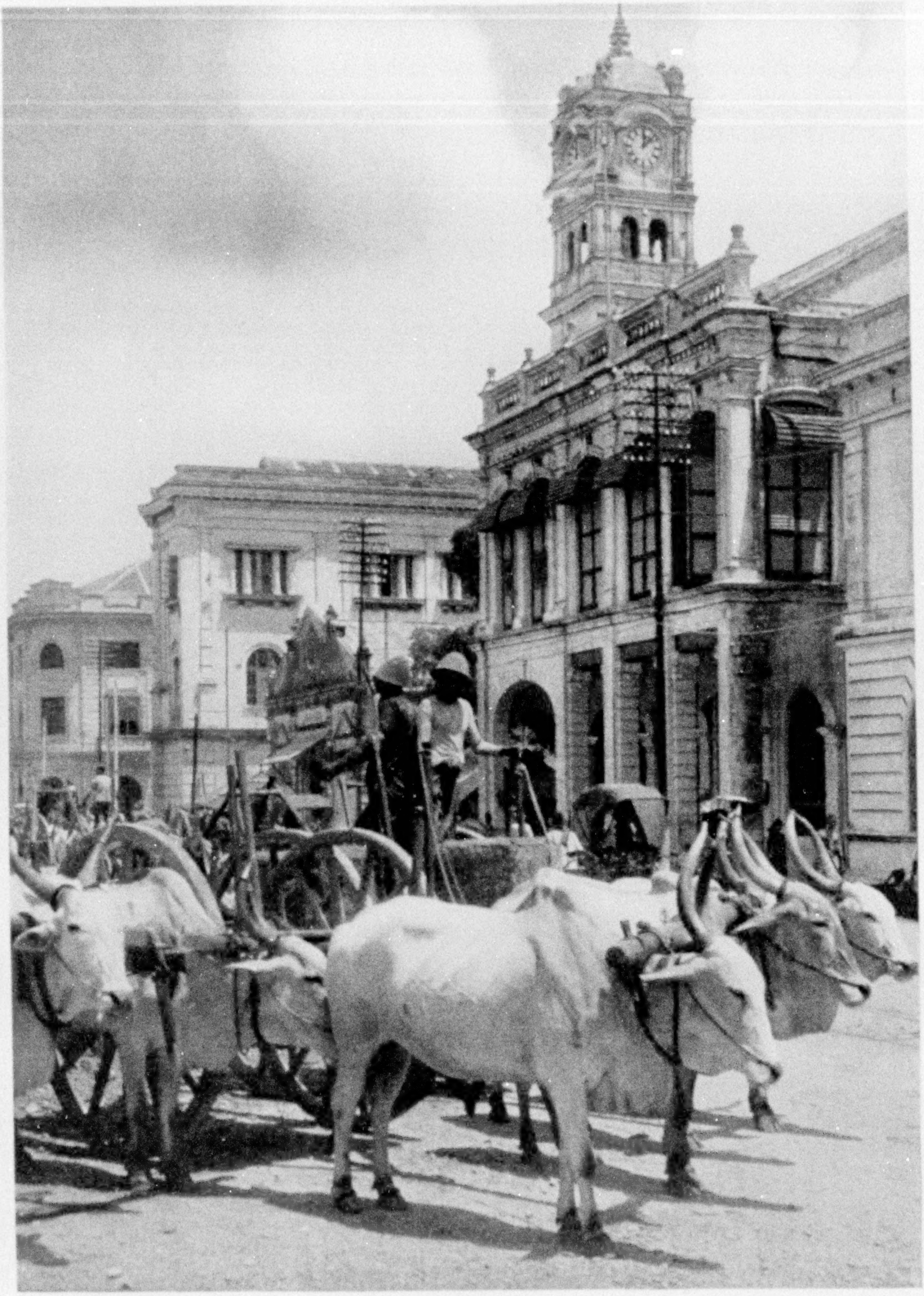
Even after you've got your durian fruit, getting it open is a hard job; and, compared with the overpowering odor of a ripe durian, Limburger cheese is like the delicate breath of an early violet. But its flavor is delicious, suggestive of almonds and brown sherry. The pulp and seeds, the latter roasted, are its edible parts.

Another famous fruit, so very perishable that its delights are known only to the dwellers of this region, is the mangosteen. In Queen Victoria's time various rewards were offered to the navigator who might successfully transport a mangosteen to London; but every effort failed.

As Shanghai has its Bubbling Well Road and Manila its Malecón, so Singapore has its famous Orchard Road, where the colony takes the evening air. And the hilly Botanical Garden, hereabouts, affords an incomparable study of the plant and tree families of Malaya. Towering ferns and palms stand in giant bouquets, and in one pool floats a bed of sea roses and lotus flowers of amazing size and beauty.

UPPER-CLASS MALAY LADIES JOIN IN TURTLE-EGG HUNTS

Among the sultans of Perak, hunting turtle eggs in the sands of river banks is an ancient enterprise. In this sport the



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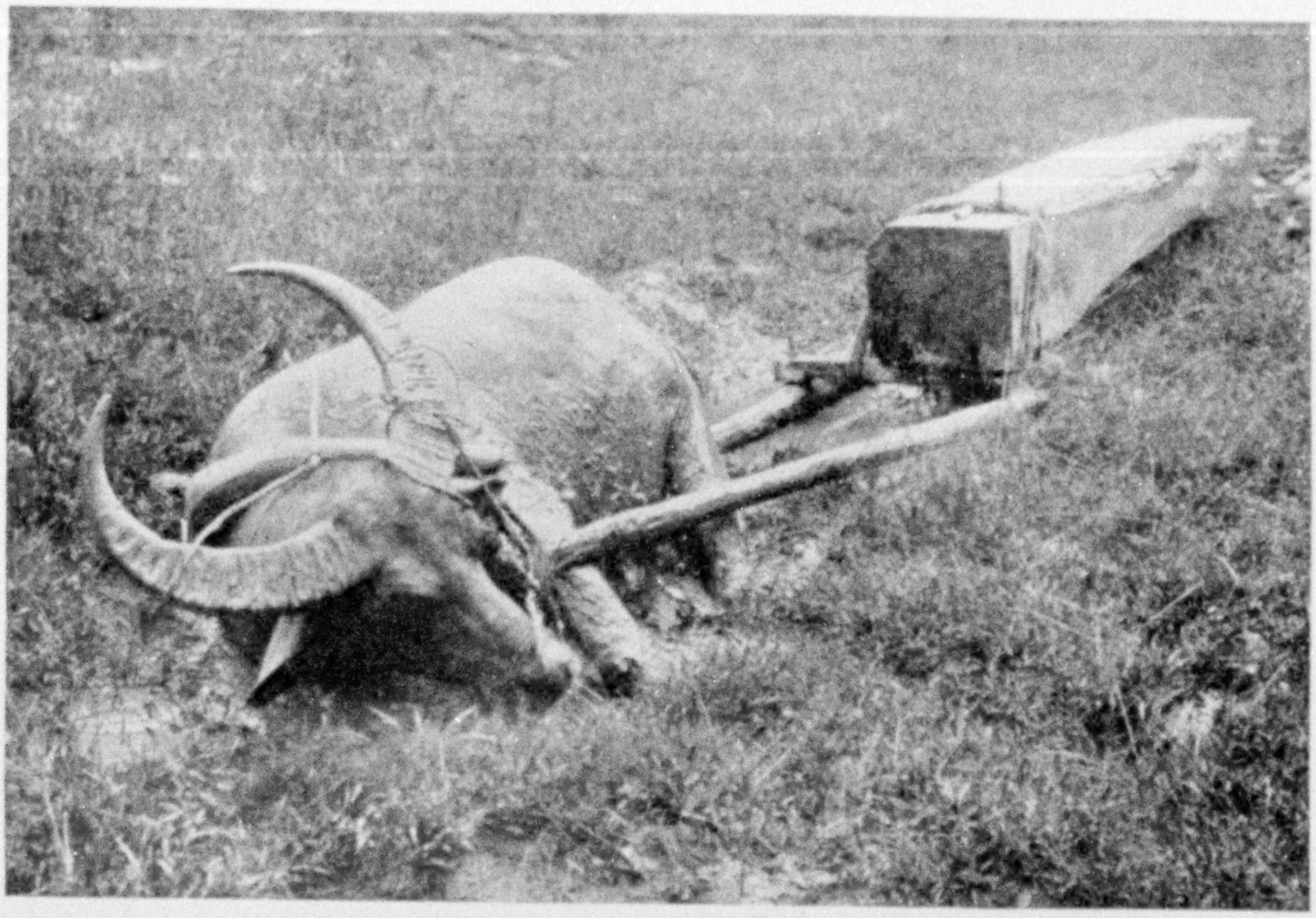
CONGESTION OF TRAFFIC IN GEORGETOWN: PENANG ISLAND

Malays call Penang "The Cape" because Georgetown lies upon a great flat which stretches into the sea for four miles. The city's streets, laid out in formal lines, are enlivened by colorful splashes made by a white block of government buildings, canary-yellow houses, a blue bungalow, and a drab fort. It enjoys Western cleanliness and modern conveniences.



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TIRED AND MIRED

When the ground is soggy even the powerful water buffalo finds it difficult to drag such logs from the forests of Malaya, where they are squared with handsaws.

upper-class Malay ladies also take part. A hundred miles or more up the Perak River, and after the first heavy rains in December, these turtles swarm out on the sandy banks, dig nests two or three feet deep, and lay from 15 to 30 eggs in each nest. But the turtle doesn't set on her eggs; she leaves them to hatch of their own accord, in the warm sands. And the little turtles, breaking from the shells, dig out, waddle down to the river, and swim away.

When sea turtles come in to the beaches the Tamils, like their brothers in Ceylon, are said to have a way of robbing them of their shells, for use in making combs, hair ornaments, etc., by turning them on their backs over a fire. When the shell is removed the turtle is permitted to go and grow another shell. It is said that certain of these sea turtles, identified by individual marks or scars, have been known to return to the same stretch of beach year after year.

In the famous Raffles Museum at Singapore is a striking natural-history display, showing the animal, bird, and fish life of jungle and sea. Here are many specimens of the orang-utan and apes of Farther India, wild buffaloes, a rhinoceros from Sumatra, tigers, leopards, Malay bears, civet cats, and a collection of strange, giant bats.

There are flocks of tropic birds, too, and brilliant butterflies, and crocodiles, and all sorts of reptiles and amphibians, together with spiders, crabs, starfish, and coral exhibits. It is, in fact, a liberal education in the natural history of Malaya to go through this museum.

Probably no British institution is of more interest or value to the native inhabitants of Singapore, and on holidays the Chinese, Malays, and Tamils flock in swarms to view these exhibits, chattering excitedly and showing far more enthusiasm than the average European visitor.

AMONG THE SEA GARDENS OF MALACCA STRAIT

Once I worked my way around the world, and no adventure anywhere, in the four years' journey, was more delightful than a wading trip, at low tide, along one

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A RICE CART ALONG GEORGETOWN'S WATERFRONT: PENANG ISLAND

Penang, where Captain Sir James Lancaster, in 1592, "came to an anker in a very good harborough between three islands," has long been outstripped in trade by Singapore. It is still in active competition, however, for since the opening of tin-smelting works in the Province of Wellesley, in 1903, Penang is the chief place of export for tin from the State of Perak. Off its main seafront a vast fleet of steamers and native craft is to be observed at all times.

of the coral strands of Malacca Strait. Beneath the clear, greenish sea water, with the sunlight at just the right angle, the coral plants displayed their form and color with a beauty which no brush or pen, certainly no mere iron typewriter, can ever portray.

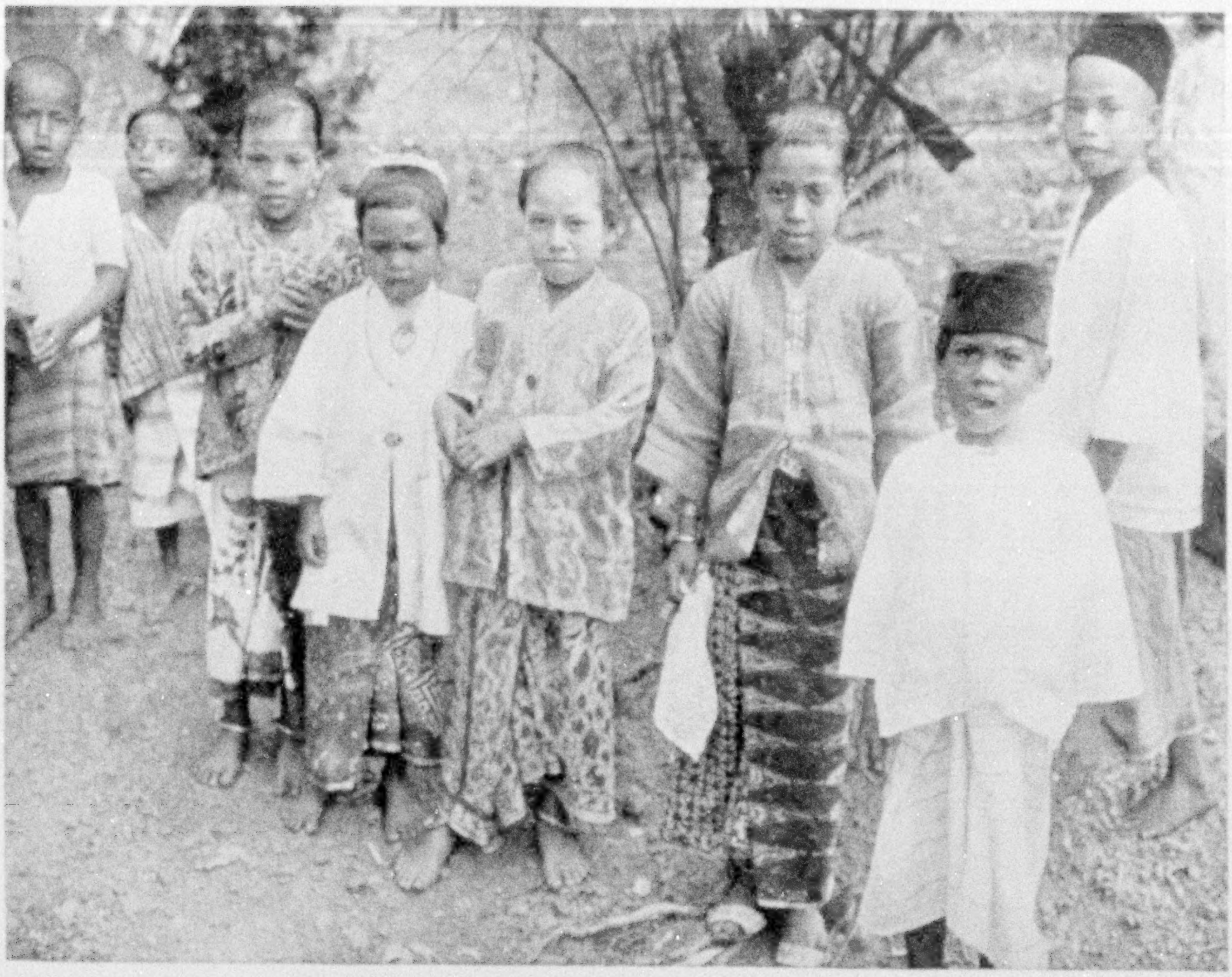
The order, the symmetry and composition of these sea gardens were such that it really seemed a trained landscape artist had set them there, sorting and contrasting the colors as a florist might in arranging a great bouquet.

With a short pick we broke off huge pieces of the coral rock; but once in the bottom of the boat, in the hot sun, this marvel of the underwater world lost much of its dazzling glory.

Yet, when broken open, it revealed still another striking phase of coral life. Each honeycombed chunk proved the habitat of scores of small creatures, queer striped little fish that had probably fled into the coral to escape larger fish, mollusks, slugs, and various tiny forms of marine life, to whom the crevices offered a safe, comfortable retreat.

THE MALAY, INDOLENT, COURAGEOUS, LOYAL

Few, very few, white men have known the real Malay—that is, few have been able to speak, read, and write his language, to gain his confidence by intimate association. An Englishman, Sir Frank Swettenham, for years Governor of the



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MANY RACES MAKE UP THE SCHOOL POPULATION OF SINGAPORE

Prosperity in the rubber trade has improved conditions for the natives, and Malay school children are now given better opportunities than formerly. Attendance at school is compulsory and instruction in English is provided for all nationalities.

Straits Settlements, pictures the Malay as a man deft with weapons, skillful in casting a net or handling a paddle, and with a courage and freedom from servility unusual in the East.

In playing games he is quick and intelligent and shows a high sense of good sportsmanship; if the other fellow is clever enough to win, the Malay admires him for his superior skill.

In his creed loyalty takes a high place, and to his friends he is always hospitable, generous, and even extravagant.

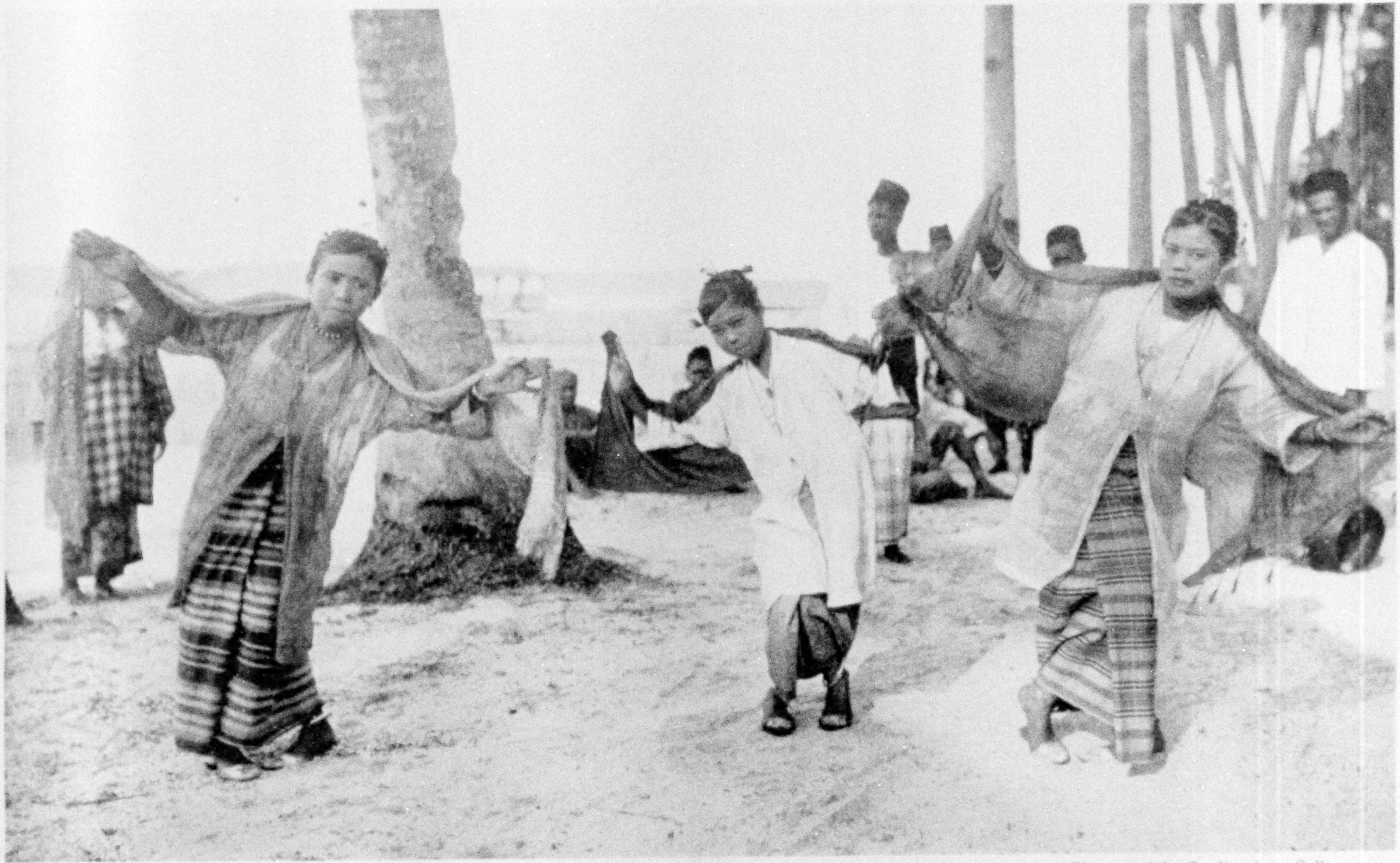
It is considered bad form for a stranger to ask any Malay what his name is or where he is going. But, once you know him and have his confidence, he will share with you his utmost secrets—even those which, if betrayed, might mean his own death.

Also he will borrow money from you and never pay it back; but, owing you, he stands ready to help you, to fight for you, and to die for you, especially if a woman, a race horse, or fighting rooster is involved in the argument.

But, gambler that he is and much as the Malay likes the things that money buys, he is no money-maker. So the rush of the new era passes him by. Rubber and tin booms in Malaya have made white men and Chinese rich, but not the Malay. To him traders are tiresome persons, with no sense of humor or love of adventure.

Lazy as the Malay is, if you let him take his own time for it and work only when the spirit moves him, he can produce many beautiful and artistic things. Occasionally, in Singapore, you may come upon hair ornaments, belt buckles, and dagger sheaths artistically wrought in gold or silver, scent bottles suggestive of early Greek art, or carvings in wood or ivory of unique design and striking workmanship.

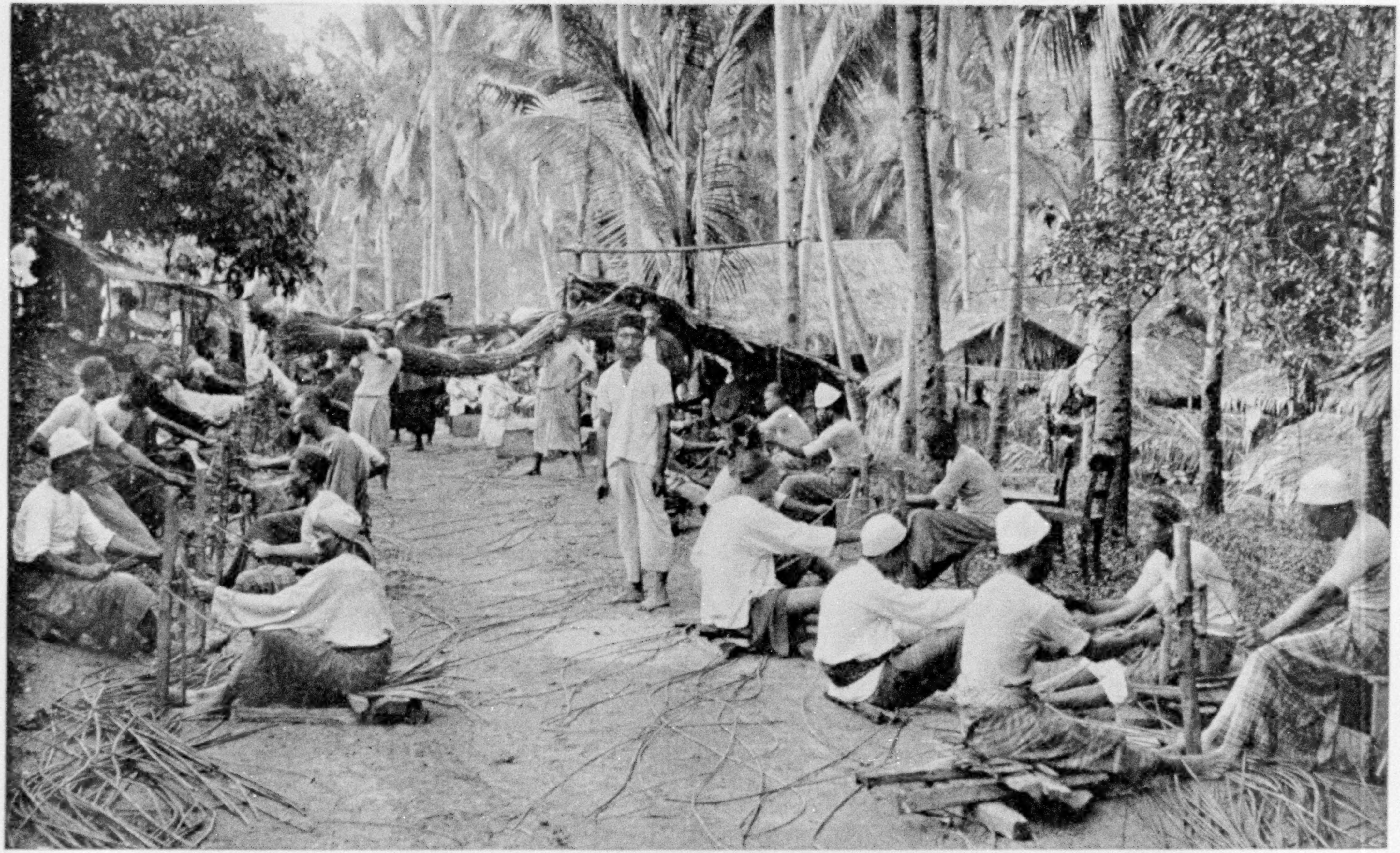
As warriors among themselves and



Photograph by Cowling from Galloway

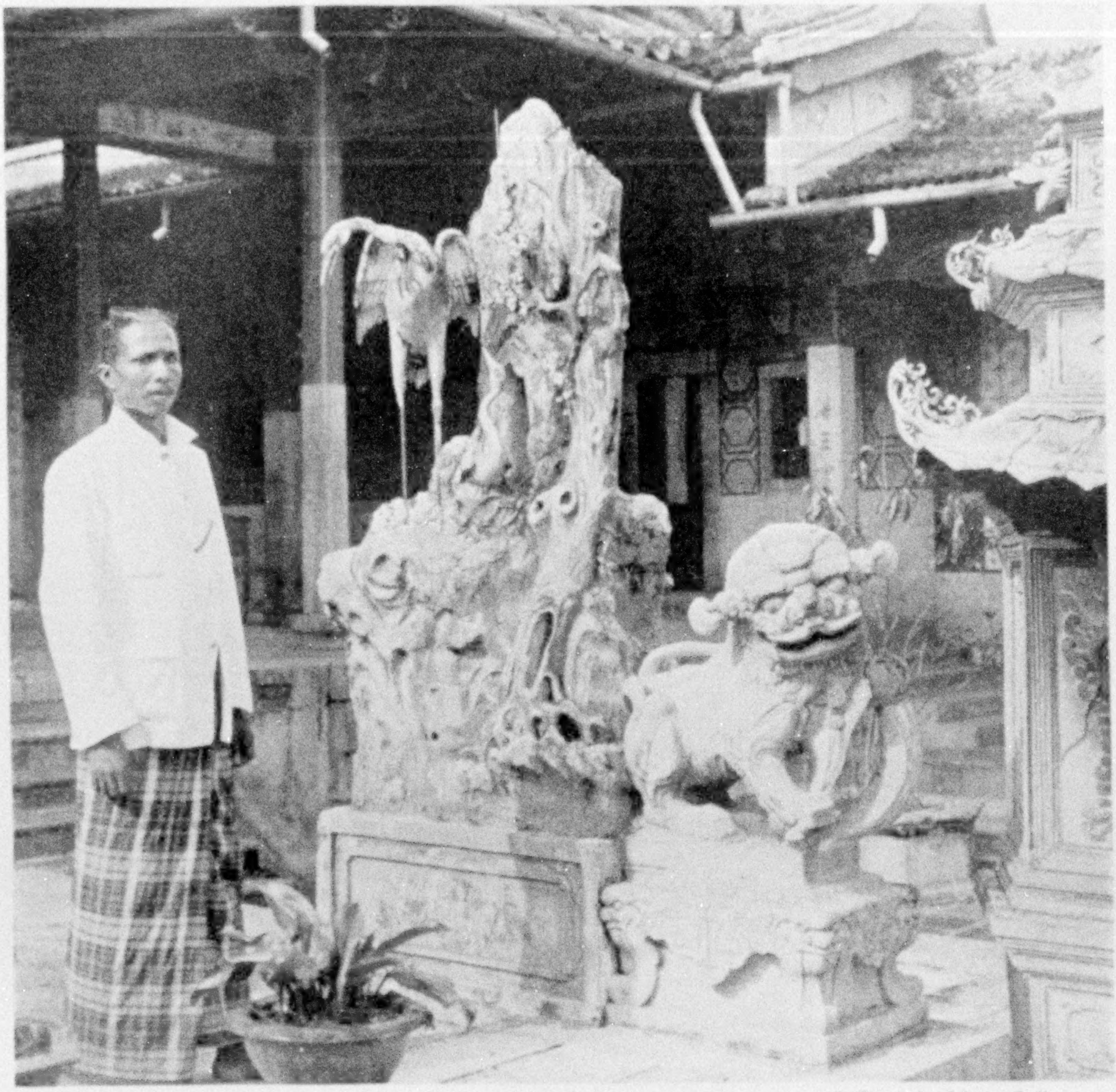
PERHAPS THIS WAS THE GREAT-GRANDMOTHER OF "THE CHARLESTON"

"No Malay dancing girl could hold a job in even the cheapest American cabaret show. To any Yankee theatergoer the Malay dancer, with her shuffling feet and idly swaying hands, is a dull and tiresome performer, and the din and rattle of gongs, drums, and dried sticks struck together are sadly without even a suggestion of 'jazz'" (see text, page *266*).



NIMBLE FINGERS PREPARING RATTAN FOR FURNITURE MAKERS

To clean the flexible stems of the rattan, the native draws them back and forth in crotches formed by fastening sticks on stakes driven into the ground. Most of the Malayan rattan output is consumed by the furniture industry of the United States and Europe, though some is used for umbrella handles and canes.



© Elmendorf from Galloway

A SINGAPORE PILGRIM VISITS A STRANGE PIECE OF STATUARY IN A BUDDHIST TEMPLE

At first glance Singapore's entire population seems to be Chinese, for this race is so prominent as almost to eclipse the individuals of other nationalities. Many sections of the city look like solid blocks of China, to which come additional immigrants. At the oldest Chinese temple the visitor, before entering, must buy crackers charged with gunpowder and explode them on the pavement in order to exorcise the devils.

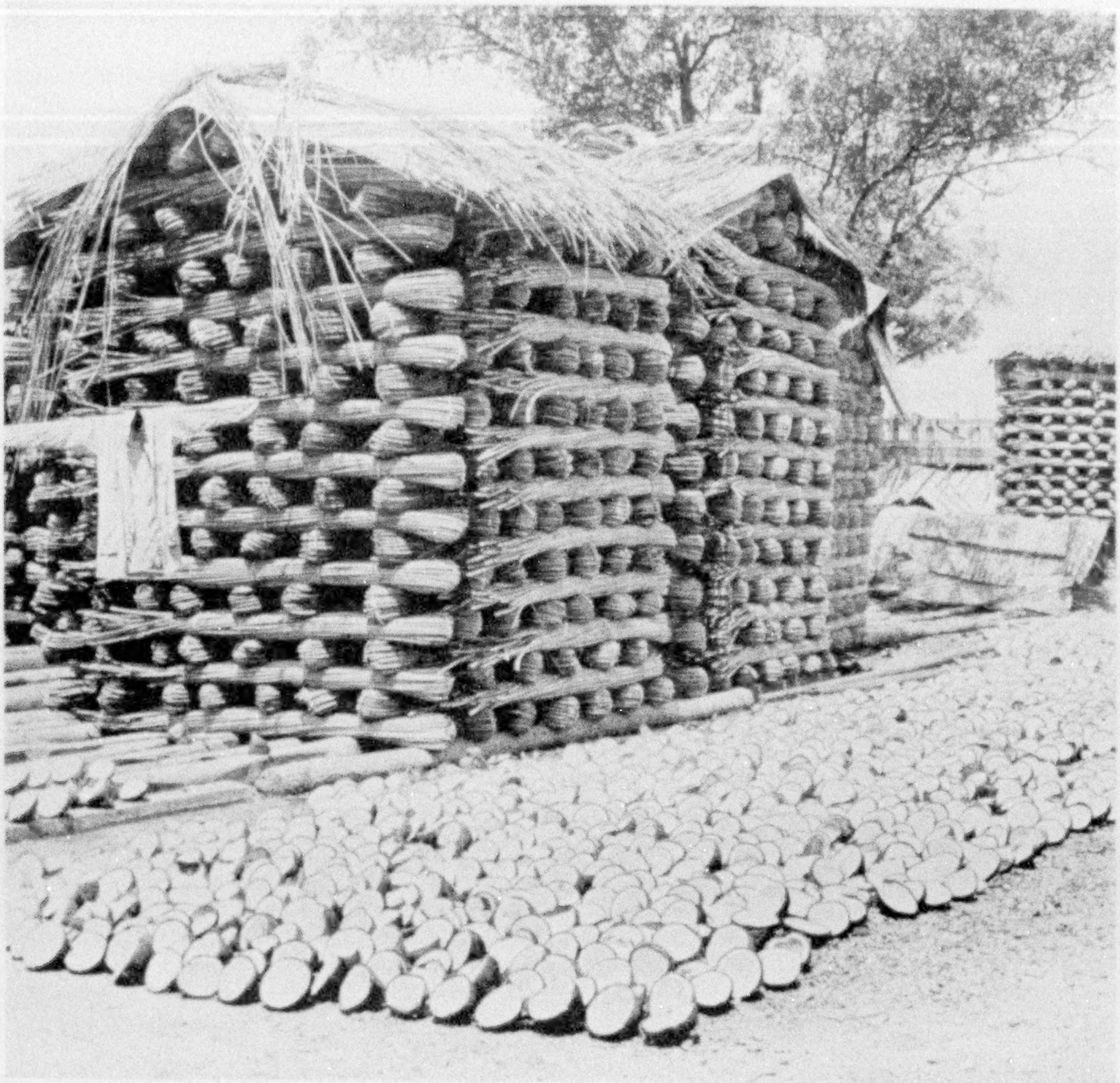
ardent promoters of cock fighting, they have also produced highly tempered daggers and krises and tiny but murderous spears that fit over the spurs of roosters, so that at one fell blow a clever cock can disembowel his plumed opponent.

Wonderful shawls they make, too, and plaited baskets, and vessels of beaten silver with trimmings of gold filigree. But here, as elsewhere in the East, the advent of cheap European jewelry, cutlery, and machinemade cloth seems to have diverted the native artisan from his ancient calling.

Even the striking native dress, the brilliantly figured *sarong* and the bright handkerchief knotted cleverly into a picturesque head covering, is giving way, especially in the cities and towns, to the straw hat, white cotton pants, and shoes. And, instead of carrying a spear, the modern town Malay prefers an umbrella with a fancy handle!

WHY THE MALAY RUNS AMOK

From these Malays we borrowed the common phrase, *to run amok*. This murder mania is familiar to every American soldier who served in Mindanao, where



Photograph from Galloway

CHAIRS AND SOAP IN THE RAW

Rattan for commercial purposes varies in length from 5 to 35 feet and is tied in bundles for shipment (see, also, illustration, page 263). Since the time of Darwin's visit to the Cocos (Keeling) Islands in 1845, when he noted that coconuts were exported to Singapore "for local consumption as oil and for mixing in curries," the remainder of the world has discovered their value. From the sun- or kiln-dried meat, known to commerce as copra, is expressed a valuable oil, used in making oleomargarine, marine soap, and other commodities; the refuse makes a nutritious cake for dairy cows.

the craze is known as *juramentado*. It is merely this: When a Malay believes an intolerable injury has been done him, an insult or dishonor which he could never hope to live down, a fit of madness seizes him, and he will grab the first weapon at hand and start killing, beginning on the first person he sees, even if it happens to be an innocent member of his own family.

Like certain Filipinos of the lower classes, the Malays are addicted to chewing betel nut, which gives the lips a very reddish stain. *Siri* they call their delicacy, and it is made by wrapping a piece of betel nut in a leaf from a certain vine and sprinkling a little lime on it. British officials say, however, that this practice is dying out in Malaya; that the hospitable habit of passing the siri box when company calls is no longer a social custom.

NO HIGH RENTS OR HOUSING SHORTAGE

Here high rent or scarcity of dwellings is felt not at all, for a Malay can build himself a suitable house in two or three days.

The Malay house, like the nipa shack of the Philippines, is flimsily built of palm leaves or cane, usually with a split-bamboo floor and a thatched roof. It stands five or six feet above the ground, on poles, leaving protection for pigs or chickens beneath. A tiny veranda in front, one large room, and a sort of kitchen shed attached make the standard type.

Barring a few straw mats and crude kitchen utensils, there is no furniture at all. A square hole is cut in one wall, and a shutter is tied at the top with string or vines as hinges. This is propped up in dry weather to give light and air.

Among the poorer classes, girls work hard, helping with the planting and the rice pounding. Nowadays, thanks to British rule, even the lower classes are often able to attend school and can read and write.

Rice and orange blossoms are thrown at Malay weddings, just as they are in America; Malays say this means good wishes for numerous progeny.

No Malay dancing girl, not even the most bejeweled and fragrant favorite of a sport-loving rajah, could hold a job in even the cheapest American cabaret show. To any Yankee theatergoer, the Malay dancer, with her shuffling feet and idly swaying hands, is a dull and tiresome performer, and the din and rattle of gongs, drums, and dried sticks struck together are sadly without even a suggestion of jazz (see page 262).

But the Malays like it, and the Ballet Russe, the Apache dance, or the frolics of our barefooted interpretative artists would probably fall flat before any native audience in Singapore or Penang.

MUCH OF THE MALAY PENINSULA IS STILL WILD

Malays seldom use chairs as we do; they simply kneel, then drop back and sit on their own heels—the favorite position for rest in all the Malay world, from Manila to Ceylon.

With the Malay, as with the Arab, Christian missionaries have made little progress. Some one has said that, although the Malay is a Moslem by profession and would suffer crucifixion sooner than deny his faith, he is not a bigot; he is very tolerant and believes that the absence of hypocrisy is the beginning of religion. He has deep faith in God and the immortality of the soul, and his heaven is a happy land of ecstatic earthly delights. His hell is full of punishments, but every individual is so sure he will escape it that its existence causes no worry.

Despite the new railways and the tin and rubber boom, much of the Malay Peninsula is, of course, still unreclaimed.

Away back in Malacca dwells the naked, wooly-haired, primitive Sakai tribe, remote kinsmen, perhaps, of the Philippine Negritos and the South Sea Papuans, who build their rude nests of bark and broken limbs high up in the tree tops, like the orang-utan, and live on fruit and raw game, which they kill with blow-guns. These Sakais are so shy that they avoid all contact with other tribes, and practically nothing seems to be known of their customs or origin, except that they probably belong to the family of black races mysteriously scattered long ago from Africa to Polynesia.

TIGER AND OTHER JUNGLE TALES

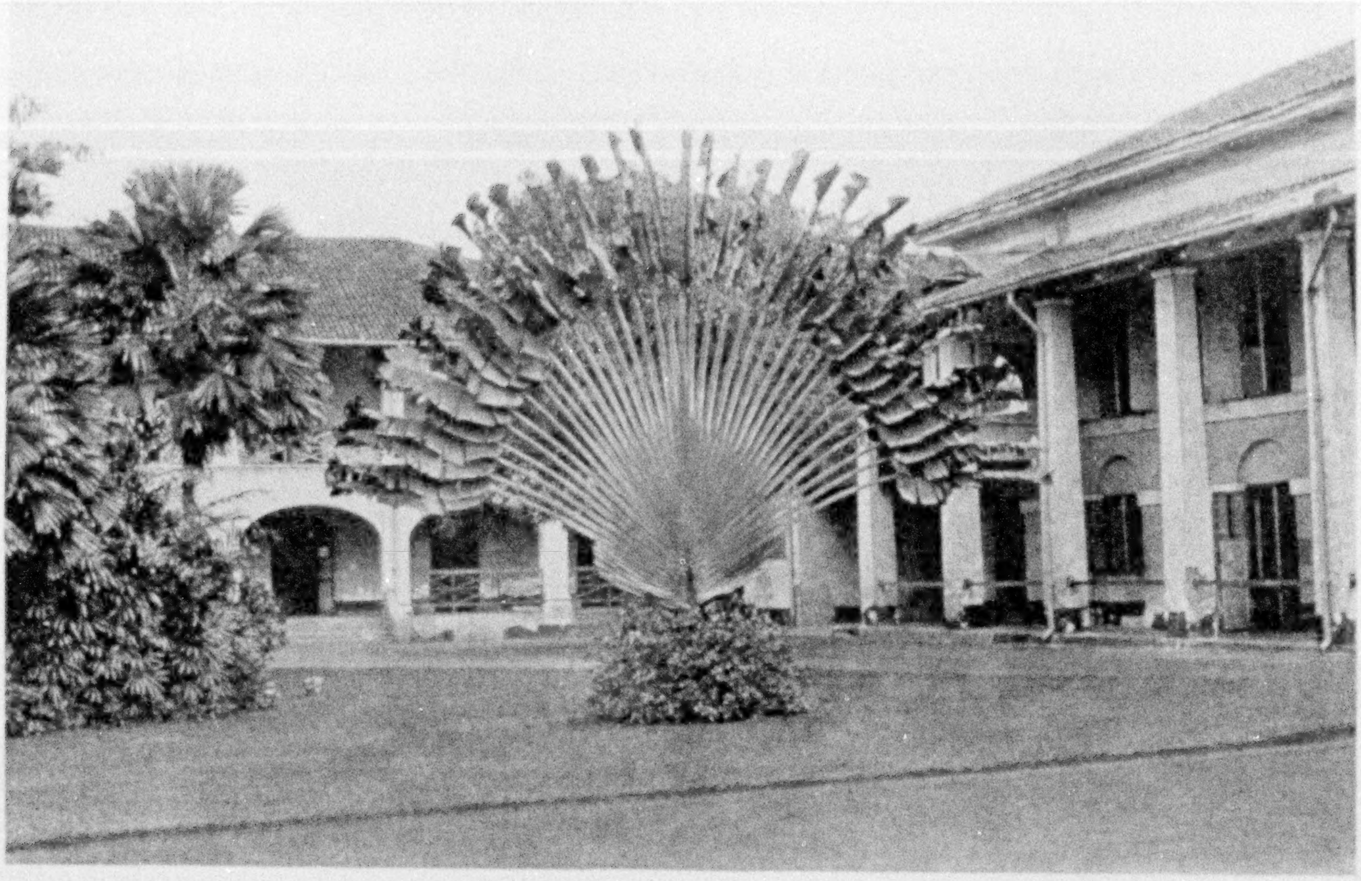
Fanciful as it sounds, early settlers at Singapore were harassed as much by tigers from the jungle as American pioneers were by hostile Indians. For years, hardly a week passed that some one in or around the colony was not killed and eaten by a tiger. Three hundred are said to have perished in one particularly bad year. Even the London papers of the time urged the government to action.

Bounties were paid and pits were dug to trap tigers on the edge of town. Often a live goat or dog, its neck carefully shaved and rubbed with poison, was tied out near the tiger's haunts to tempt the striped killer.

Tigers, restless from having been hunted in Johore, have often crossed from the mainland to Singapore and have been seen swimming in the channel.

Tourists at the Raffles Hotel have been regaled with one tiger yarn to the effect that on a certain foggy morning coolies went at early dawn to mop out the bar and billiard room, only to flee in terror from a tiger lurking under one of the tables.

In the uproar that followed, the story



Photograph by A. E. Pfahler

THE TRAVELER'S TREE, A VISITOR TO SINGAPORE FROM MADAGASCAR

This remarkable palm has a graceful crown of broad green leaves which spread from the top of the trunk like an immense fan. The leaves resemble those of the banana, number from 20 to 30, and are about 10 feet long. The tree derives its name from the fact that the traveler can obtain a supply of cool, pure water by piercing the base of the leaf stalk. The broad surface of the leaves condenses the moisture from the atmosphere, and the water trickles down into the hollow where the leaf stalk joins the stem.

goes, one of the guests, an Englishman in striped pajamas, carrying his rifle and smoking a cigarette, came in leisurely fashion into the big room, first helped himself to a whisky and soda, lit another cigarette, and then shot the tiger.

But Malaya is famous for tiger and other animal stories. One early chronicler reported ants as big as cats!

PIRACY FLOURISHED HERE FOR GENERATIONS

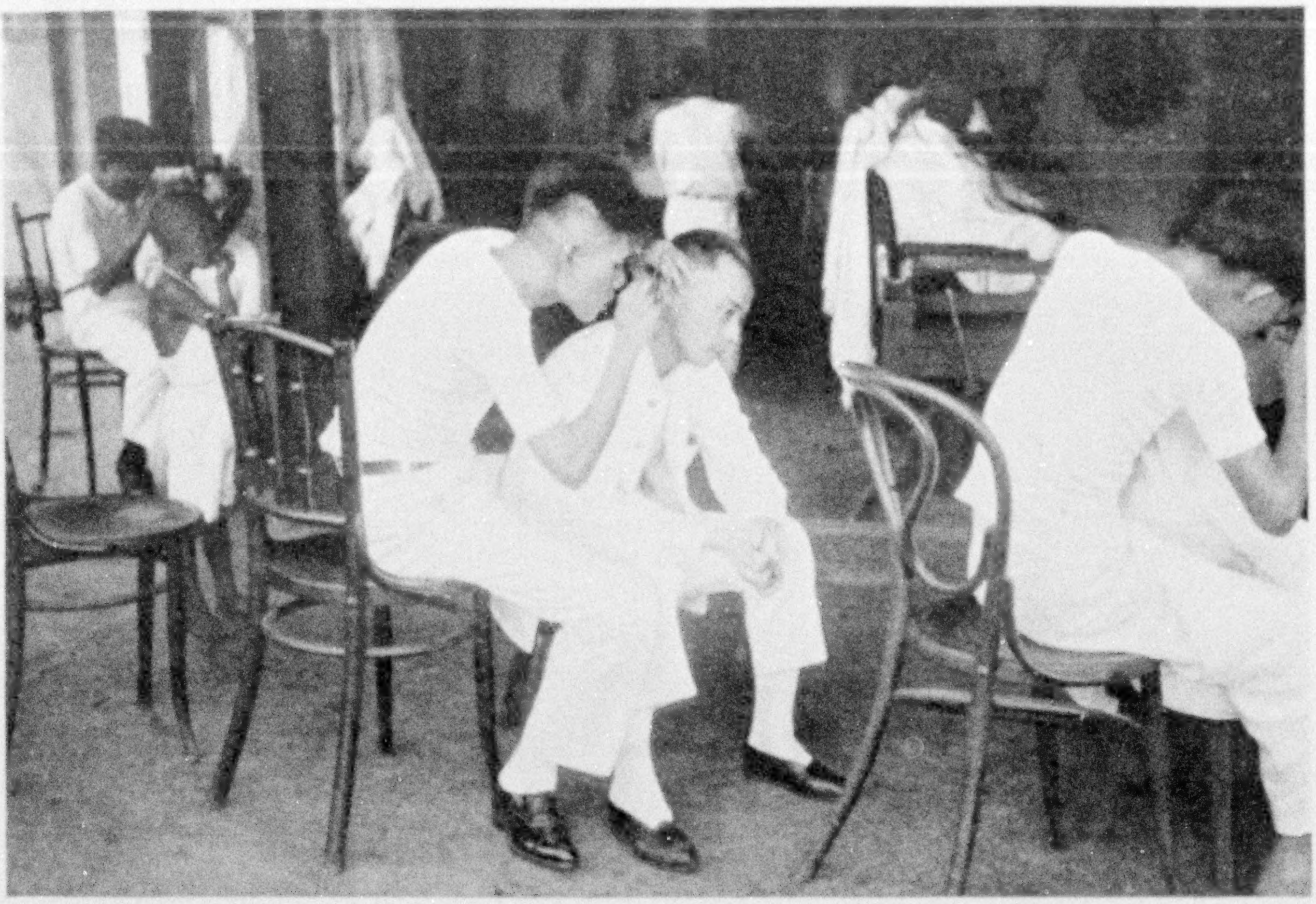
Malays believe that the tiger can change his form into that of a man, and that men with supernatural powers can take on the form and appearance of tigers, and thus destroy their enemies. They say, too, that big rats live in the jungle, rats so big they can whip the panthers, and that alligators lure people to death by calling them down to the river banks, imitating the voices of friends or loved ones.

Here piracy was for generations the chief sport and main revenue of many a Malay clan. Probably these eastern seas have seen more piracy than any other region, the China coast or the Spanish Main not excepted. The countless tiny islands, the bays, straits, mangrove swamps, and many jungle-lined rivers gave perfect hiding for freebooters who preyed on the traffic through this famous trade route.

Scores of official reports on piracy have been written, and hardly a book on any phase of Malay activity but what has its chapter or more on the subject.

Bands of pirates actually lived in or near Singapore itself, where they got their powder and shot and their information as to the movements of trading ships. And to this port they often actually brought their booty for sale!

It is recorded that the first steamer built in India, the old *Diana*, with a tonnage of 160 and a speed of three knots, led the chase after pirates "by reason of her superior speed!" On one cruise she



© Burton Holmes from Galloway

AN EARCLEAN AND A HAIRCUT

Nearly all of the trades and the retail commerce of Singapore are in the hands of the Chinese, who occupy high as well as humble positions. Malaya is indebted to Chinese immigrants for working modern miracles in reclaiming reeking, fever-cursed jungles. They were the first to brave savage darts, wild animals, and disease, in order to dig the tin that put Malaya on the map of the trading world (see text, page 241).

fell in with several large pirate *prahus* which were attacking a junk. The pirates, never having seen a steamer with smoking funnels, took her to be a sailing ship on fire; and, thinking her an easy prey, shifted their attentions from the junk to the *Diana*. To their horror, the ship came right up *against* the wind, firing murderously as she ran them down.

OLD PIRATE CRAFT STILL IN USE

All through these waters the Malays still use the same type of craft built by the old pirates, and one sees the same sort of *prahu* in use now in the southern Philippines. It is a long, low boat, 40 or 50 feet over all, with a big, dirty mat sail and a sort of rattan breastwork built up on each side to protect the 25 or 30 men on board.

In old days eight or nine sweeps were worked on each side, manned sometimes by captured slaves; so their speed was considerable.

These pirates wore their hair long, like women, and let it down loose around their shoulders when fighting, to increase their ferocious appearance. Many carried bamboo shields in addition to their spears and krises, and such firearms as they could get. They preyed chiefly on those ships which were becalmed or which by accident were stranded or otherwise disabled.

One British ship defended herself successfully by a novel expedient. As the naked pirates were scrambling on board the officers turned a hose of scalding water on them! In another famous encounter, H. M. S. *Albatross* routed a fleet of more than 100 pirate prahus manned by 3,500 men!

All suspected criminals are now registered here, and Singapore's fingerprint system is said to be the best in the world. The official who perfected it later went to New York on the same work.

If you go to Singapore by way of Suez and Colombo, the first land you "raise" is Penang Island, at the north end of the Malacca Strait. Fringed with white sand beaches lined with palms, it lifts its wooded hills 2,500 feet above the sea, dotted with whitewashed cottages and villas, like the south coast of Portugal.

As your ship veers in from the north, the town of Penang fairly runs out to meet you. Built, as it is, on a flat sand spit reaching out toward the Malay mainland on the east, it seems, as you approach, that your ship must run right up into main street—a thoroughfare flanked by red-tiled houses, relics of the days of the Portuguese.

"BIRD" MONEY O. K.; "COW" MONEY NO GOOD

Penang, like Singapore, is the home of many rich, powerful Chinese. Once I was ashore there, on a holiday, when the British bank was closed. To make small purchases I wished to change an American note for some native silver. The bill I had happened to be one of a series showing the picture of a buffalo. "It may be good," the Chinese banker told me when I sought to change it, "but all the American paper money I ever saw had a bird on it. I can't accept any bill that shows the picture of a cow!"

Although lying not far from the paths of waterspouts, Indian Ocean tornadoes and China Sea typhoons, Singapore itself suffers only an occasional "Sumatra," as the sharp squalls in the strait are called. Yet it well remembers the great volcanic disaster at Krakatao, in the Strait of Sunda, when thousands perished and when a tidal wave 80 feet high swept the seas, washing pumice stone from the volcanic shower up to the city's beach.

The annals of Singapore, though covering little more than a scant hundred years, are filled with events that loom big in the modern story of the East. During our Civil War the famous *Alabama* roamed the Malacca Strait, capturing and burning Union trading ships. In these historic waters the German cruiser *Emden* sank a dozen Allied craft before the Australians destroyed her on the Cocos reef.

THRILLING CHAPTERS IN SINGAPORE'S BRIEF HISTORY

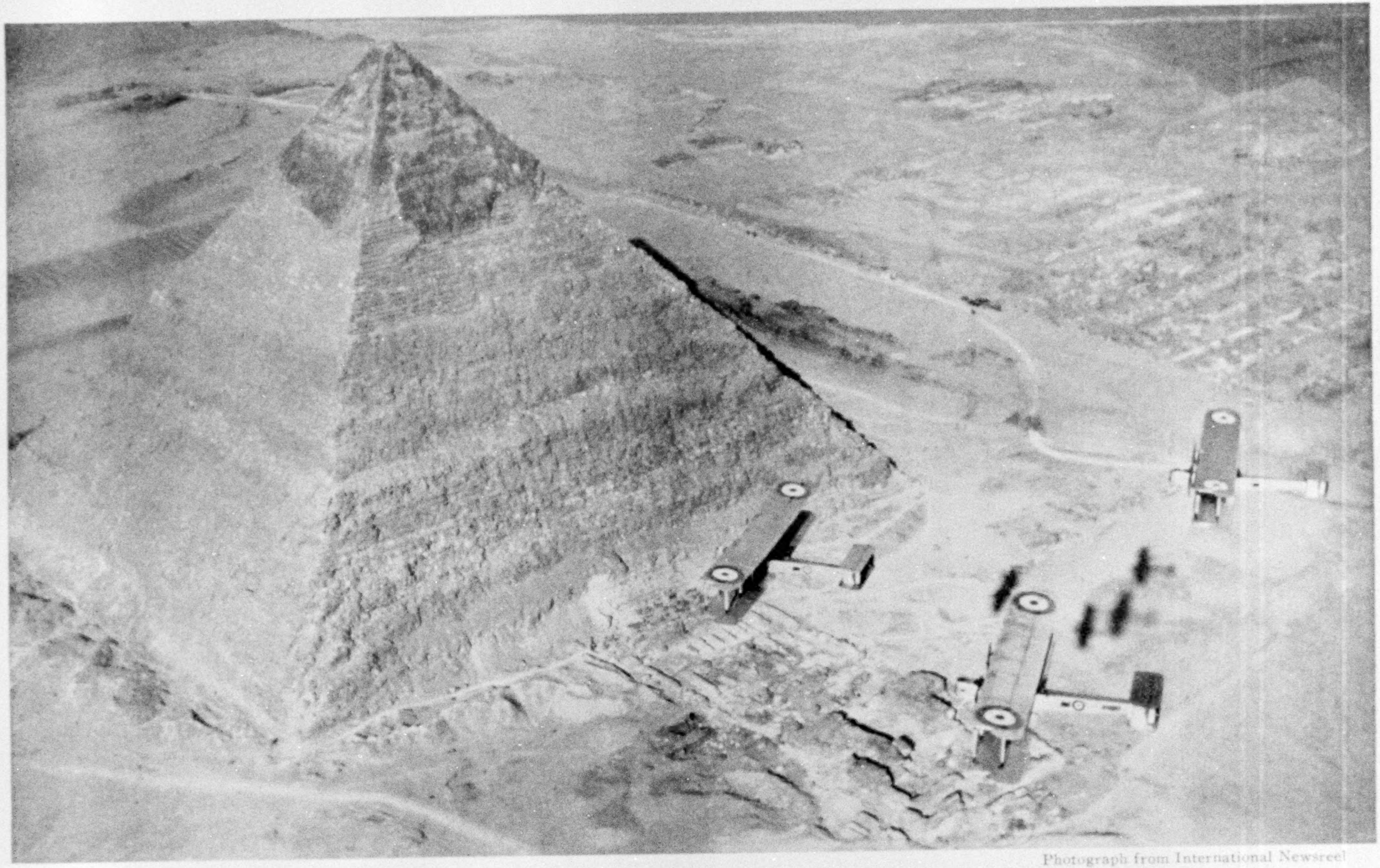
Once a British frigate hit a rock in this vicinity and sank within sight of a French gunboat. The British admiral, game to the last, fired a salute to the French as his craft settled beneath the waves! Henry M. Stanley spent some time here, the guest of an Arab sage; and in the cemetery are many historic epitaphs, some in memory of men who died in the Indian Mutiny.

The white man's conquest of the East shows that wherever the Englishman settles he plants only as much of his own law and customs as is practicable, without arousing too much native opposition.

Here in Singapore, for example, polygamy among Malays and Chinese is recognized and the children of such unions are treated as legitimate. Instead of kissing the Bible, a Malay witness may kiss the Koran. But it is not always easy to cut off a rooster's head, a rite insisted on by some Chinese when being sworn!

So, here in the strait, Raffles early declared that the principles of British law should be applied with patriarchal mildness and indulgent consideration for the prejudices of each tribe. All native institutions, such as religious ceremonies, marriage and inheritance, were respected, when not inconsistent with justice and humanity. In this policy lies the secret of British colonizing success.

Notice of change of address of your GEOGRAPHIC MAGAZINE *should be received in the office of the National Geographic Society by the first of the month to affect the following month's issue. For instance, if you desire the address changed for your April number, the Society should be notified of your new address not later than March first.*



Photograph from International Newsreel

THE EYES OF THE BRITISH ARMY LOOK DOWN ON FORTY CENTURIES

The pyramids at Giza have stood for more than 4,000 years as a monument to the engineering skill of the early Egyptians. This pyramid, built by King Cheops, towers some 480 feet above the desert and measures about 750 feet at its base. A hundred thousand men labored at its construction for 30 years. Note that the shadows of four airplanes appear near the base of the pyramid; three are cast by the planes shown and the fourth by the one from which the photograph was taken.

THE LAND OF EGYPT

A Narrow Green Strip of Fertility Stretching for a Thousand Miles Through Walls of Desert

By Alfred Pearce Dennis

Vice-Chairman, United States Tariff Commission

AMERICANS who visit Egypt know the country chiefly from the urban standpoint. They see through the eyes of the extremely polite dragoman who escorts them about the streets of Cairo or Alexandria. The man who sweats in the sun on his tiny farm is an entirely different creature. His scale of living is of the meanest.

The peasant population huddle in villages within the confines of four mud walls, homes which literally do not furnish them with a roof over their heads—wretched cabins improvised out of Nile mud, windowless as well as roofless. No modern pots and pans, none of the contrivances and shifts of modern times that go toward rendering life easy and comfortable, and which enable the foreman of a section gang on an American railroad to be better lodged, warmed, lighted, and served with news than was Queen Elizabeth of England.

We are accustomed to think of Egypt in terms of symbols—the Sphinx, Osiris, the Pyramids. The country has been a happy hunting ground for the archeologists, and their revelations turn us back through the abysms of time to the contemplation of mysterious figures of the past, whether a sacred bull or King Tutankhamen.*

A LAND WITH ONLY ONE NATURAL RESOURCE

A country of wonders, no doubt; but to the writer's mind the wonder of wonders is not the ancient relics dug from the earth, nor the mighty works of men's hands erected upon its surface, but the soil itself—that longish strip of green fringing the River Nile for the better part of one thousand miles.

Let us, therefore, begin our narrative, after a manner of speaking, from the ground up. Nature has dealt in niggardly fashion with the land of Egypt. The country possesses no copper, no iron ore, no forests, no precious minerals, and no good steam coal. It is fairly exact to remark that the country lacks all the prime prerequisites of modern industrialism. Agriculture is virtually the sole source of national wealth. But even in this field the country is extremely limited.

Egypt is practically rainless and only one-twenty-fifth of the land is capable of cultivation. These fertile regions are sandwiched in between the Arabian and Libyan deserts. While the area of Egypt, not including the Sudan, is 350,000 square miles, or about eight times the size of the State of Pennsylvania, only a little more than 12,000 square miles are capable of cultivation.

Over this relatively small strip of habitable land the population swarms some 1,100 to the square mile, whereas the population of Belgium, the densest in Europe, is 652 to the square mile. Yet, despite all this, Egypt is probably the most perfect and extensive farming laboratory that the world has yet seen.

From an agricultural standpoint, the country presents a spectacle of three uniformities—climate, soil, moisture. Except for the region near the north coast, the country is rainless and frosts are unknown. The soil is the same, formed by the sediment from Nile water.

Now, uniformity is precisely the thing which the American farmer lacks. The main factor in crop yields is the weather, and the weather is always *x*, the unknown quantity. The Egyptian solves his farming equation by knowing the value of *x* before he starts.

With the American farmer, agriculture is more or less of a gamble with Nature, whereas the Egyptian farmer bets on a certainty. Farming, therefore, in Egypt comes nearer to being an exact science than in any other important country in the world.

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* See "At the Tomb of Tutankhamen," by Maynard Owen Williams, in the National Geographic Magazine for May, 1923.

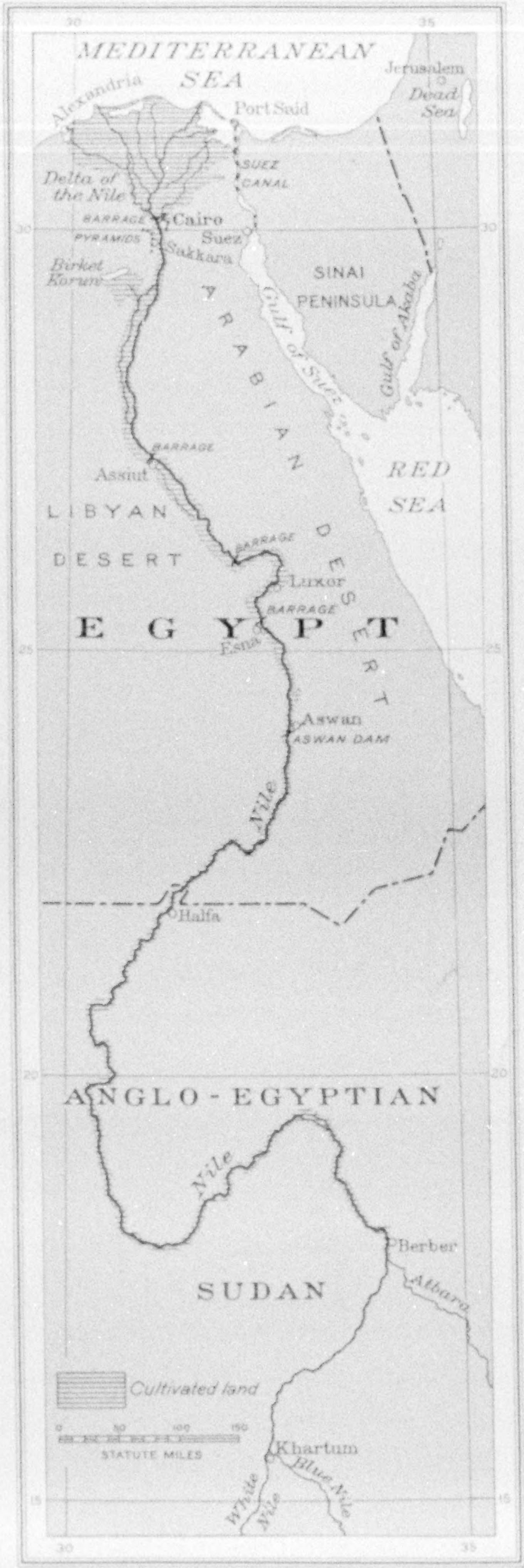
Now, the test of an exact science is predictability. Astronomy is an exact science. An eclipse of the moon can be predicted to the minute many years ahead. The thing is possible because of mathematically ascertained uniformities covering the movement of planetary bodies in space. Given uniformity of soil, temperature, and moisture, the Egyptian farmer when he sows his seed can predict almost with astronomical exactitude the results of his harvest outturn.

THE WORLD'S PRINCIPAL PRODUCER OF LONG-STAPLE COTTON

Another thing of great interest in Egyptian soil cultivation is the mobility agriculture had gained through the production of raw cotton for export. No purely farming country has ever become rich and prosperous until agriculture attains mobility.

By mobility is implied the capacity for exporting farm products in concentrated form. The Danish farmer has grown rich and prosperous by exporting concentrated foods, such as bacon, butter, and eggs, to the British market.* Egypt, through the transition from the old basin system to the perennial system of irrigation, has become the world's principal producer of long-staple cotton, and the export of this superior commodity has enabled two people to live in the Nile Valley where only one was able to live before.

In ordinary speech, there is always a tendency to personify Nature, to observe that Nature does this or that or works according to some well-ordered plan or design. While the thought is not exact, we can with some measure of truth speak of Nature's intentions about this planet and the life which flourishes upon its surface. For example, we may observe with truth that Nature never intended Egypt, a comparatively sterile and drought-beset country, to support from its soil its present population of nearly 14,000,000 people.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35
MEDITERRANEAN SEA
Alexandria
Jerusalem
Dead Sea
Port Said
SUEZ CANAL
Delta of the Nile
BARRAGE
Cairo
PYRAMIDS
Suez
Sakkara
30
30
Birket Korun
SINAI PENINSULA
ARABIAN DESERT
Gulf of Suez
Gulf of Akaba
BARRAGE
Assiut
RED SEA
LIBYAN DESERT
BARRAGE
Luxor
BARRAGE
EGYPT
Esna
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20
20
ANGLO-EGYPTIAN
Nile
Berber
Atbara
SUDAN
Cultivated land
0 50 100 150
STATUTE MILES
Khartum
Blue Nile
White Nile
15
15
30
35

Drawn by A. H. Bumstead

A NARROW RIBBON OF FERTILE LAND RUNS THE LENGTH OF EGYPT

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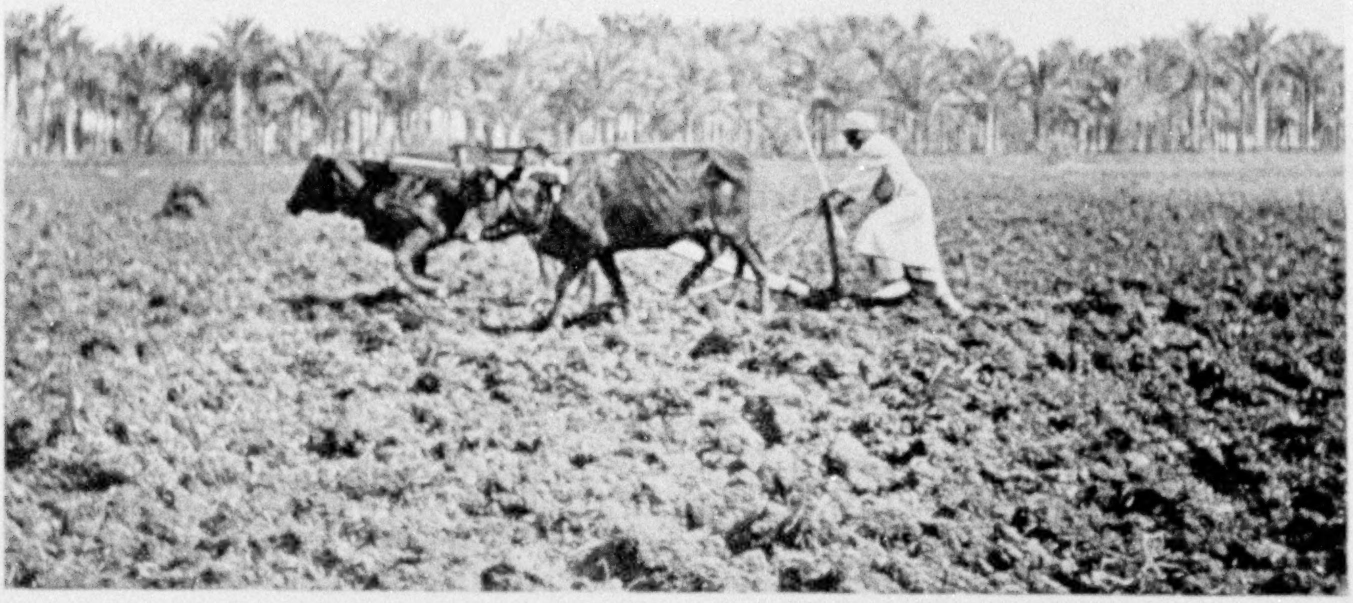
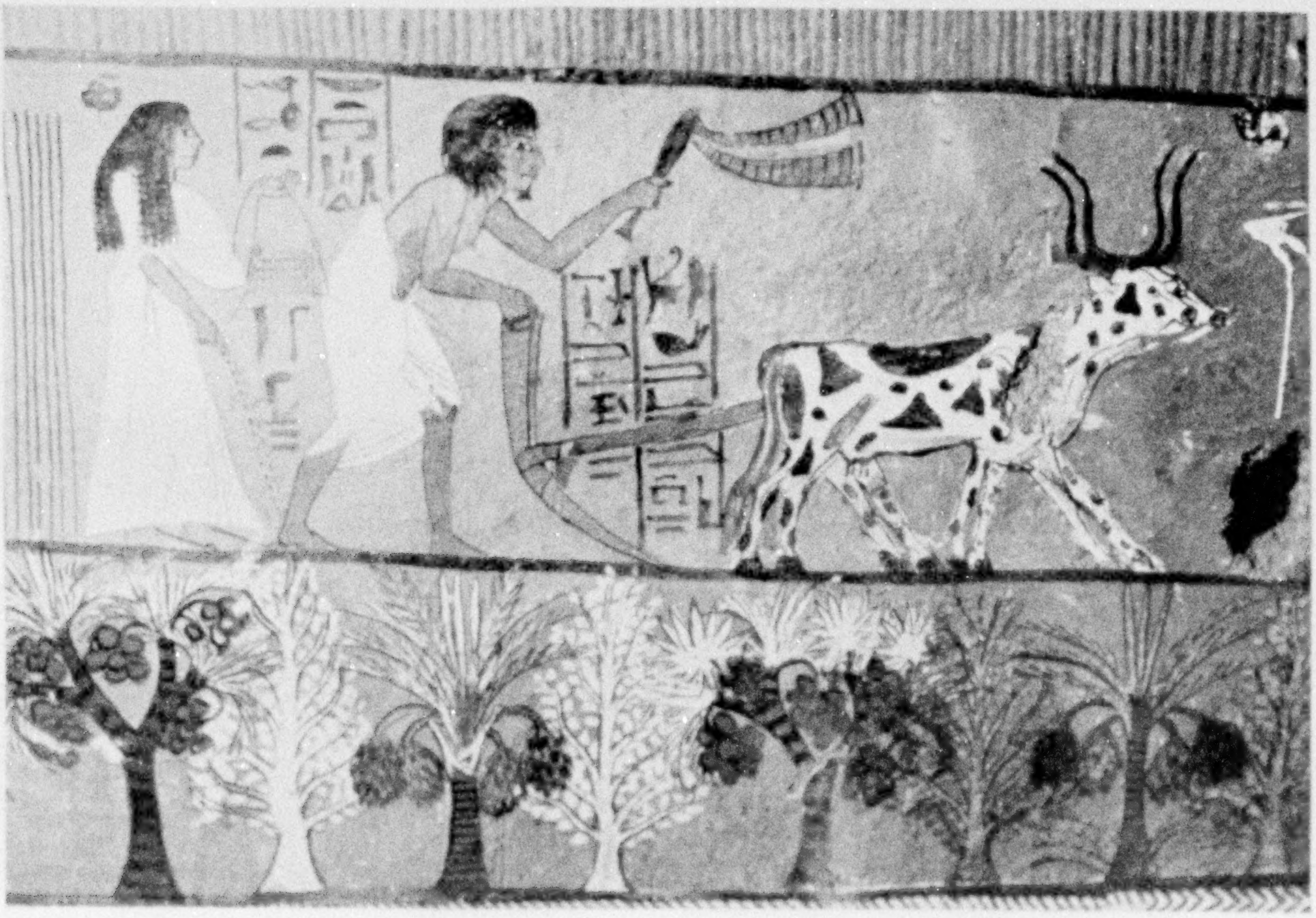
* See, also, "Denmark and the Danes," by Maurice Francis Egan, Litt. D., in the NATIONAL GEOGRAPHIC MAGAZINE for August, 1922.



Photograph by A. W. Cutler

A STOUT, POINTED STICK SERVES AS A PLOWSHARE ALONG THE NILE

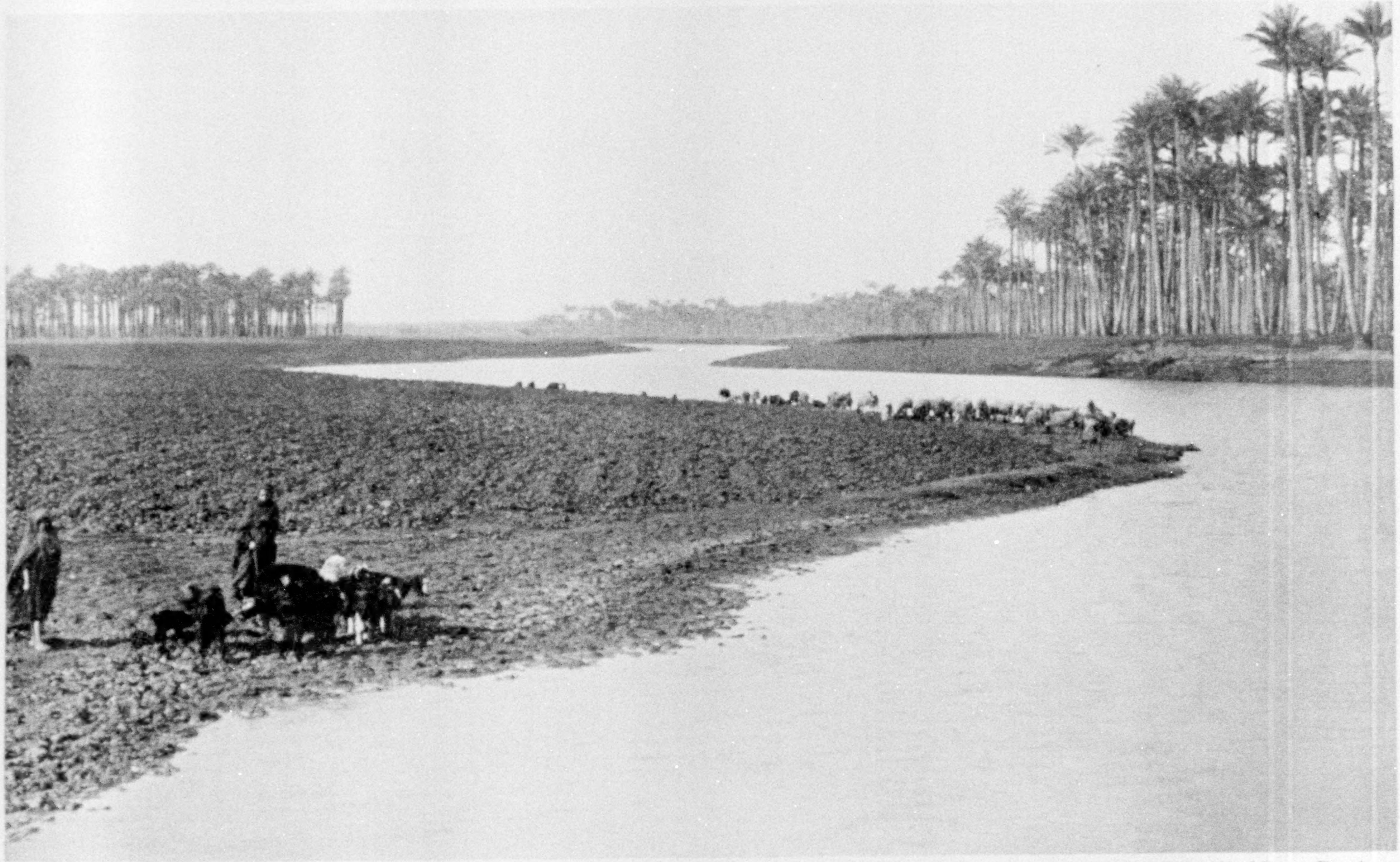
The *fellah* (peasant) keeps the end of the plow in the ground by placing his foot on a projecting piece of wood at the end of a pole connecting with the yoke.



Photograph by Gaddis and Seif

THE PRESENT MIRRORED IN THE PAST

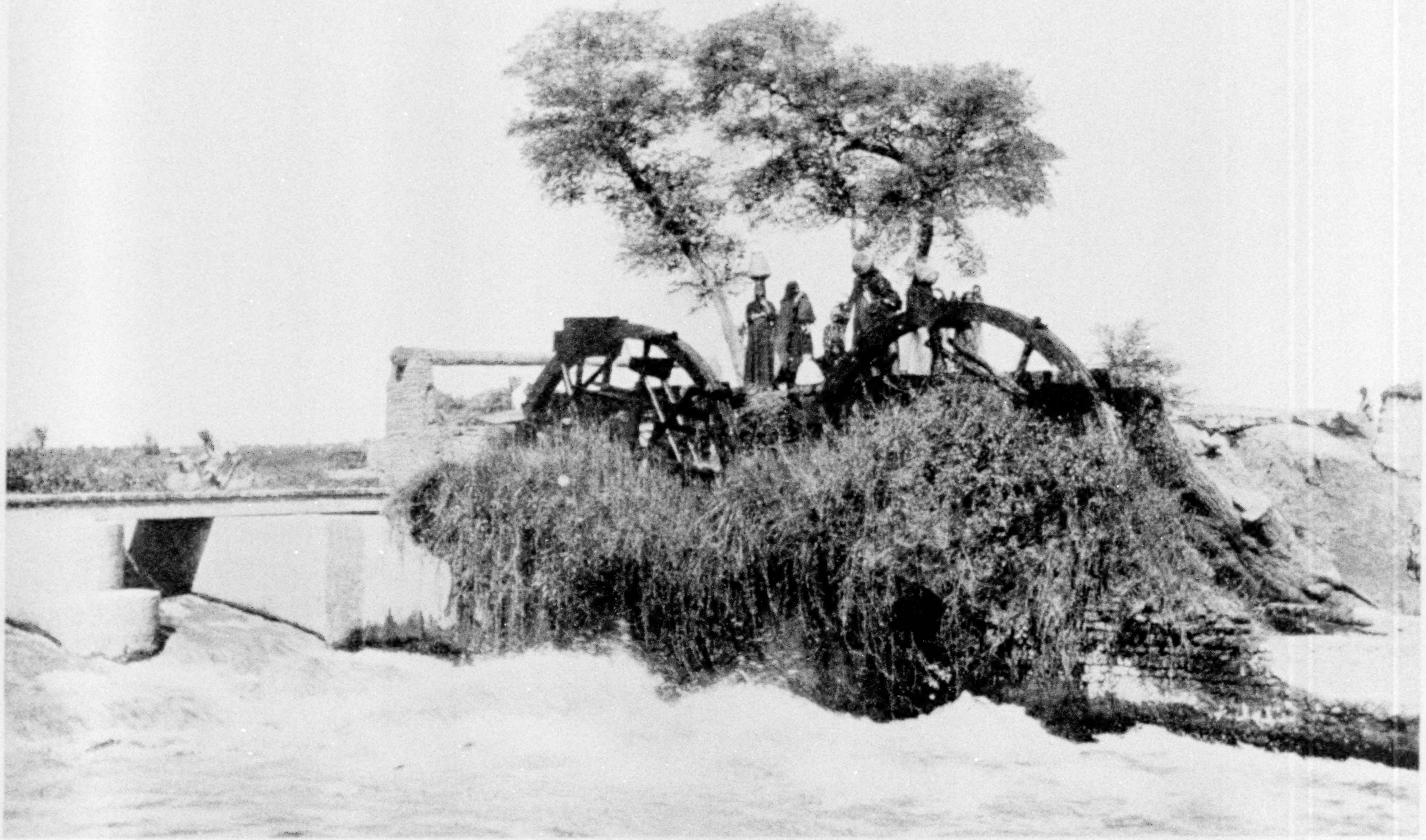
In the changeless land of Egypt many things are done now as they were at the dawn of history. The man of this ancient tomb mural used the same type of plow which is employed by the fellah to-day (see above), and the woman of the family still follows and sows the grain.



Photograph from Alfred Pearce Dennis

THE LIFE-GIVER OF EGYPT BESTOWS ITS LARGESS OF WATER UPON DATE PALMS AND FLOCKS

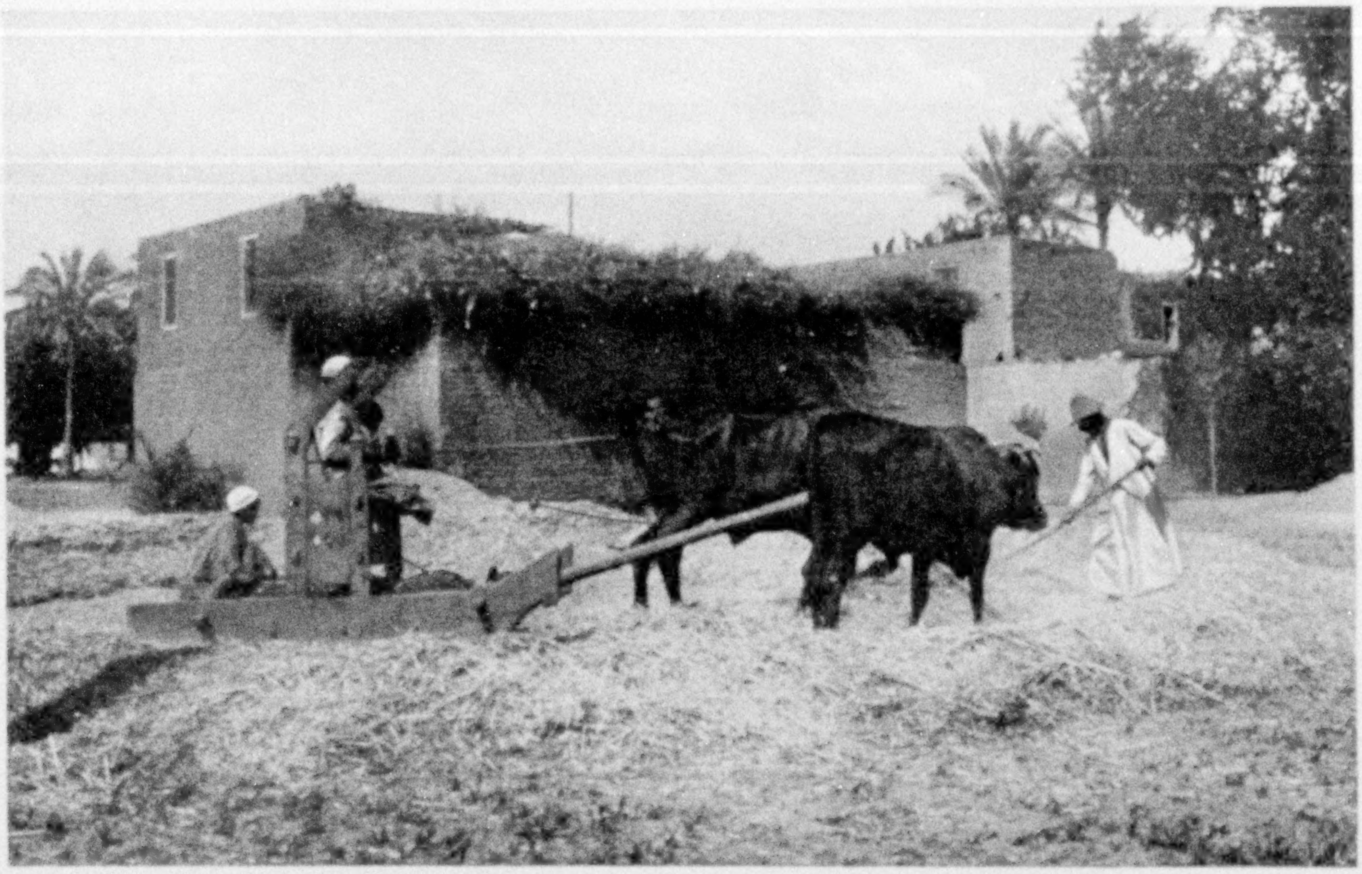
"Nature ordained that the Nile should overflow once a year and flood the agricultural plains of its valley, bestowing at once the twin gifts of moisture and fertility. When the flood has passed and the water has subsided, the farmer sows his seed and grows his annual crop" (see text, page 277).



Photograph from Alfred Pearce Dennis

A SLUICEWAY IN A DELTA IRRIGATION CANAL

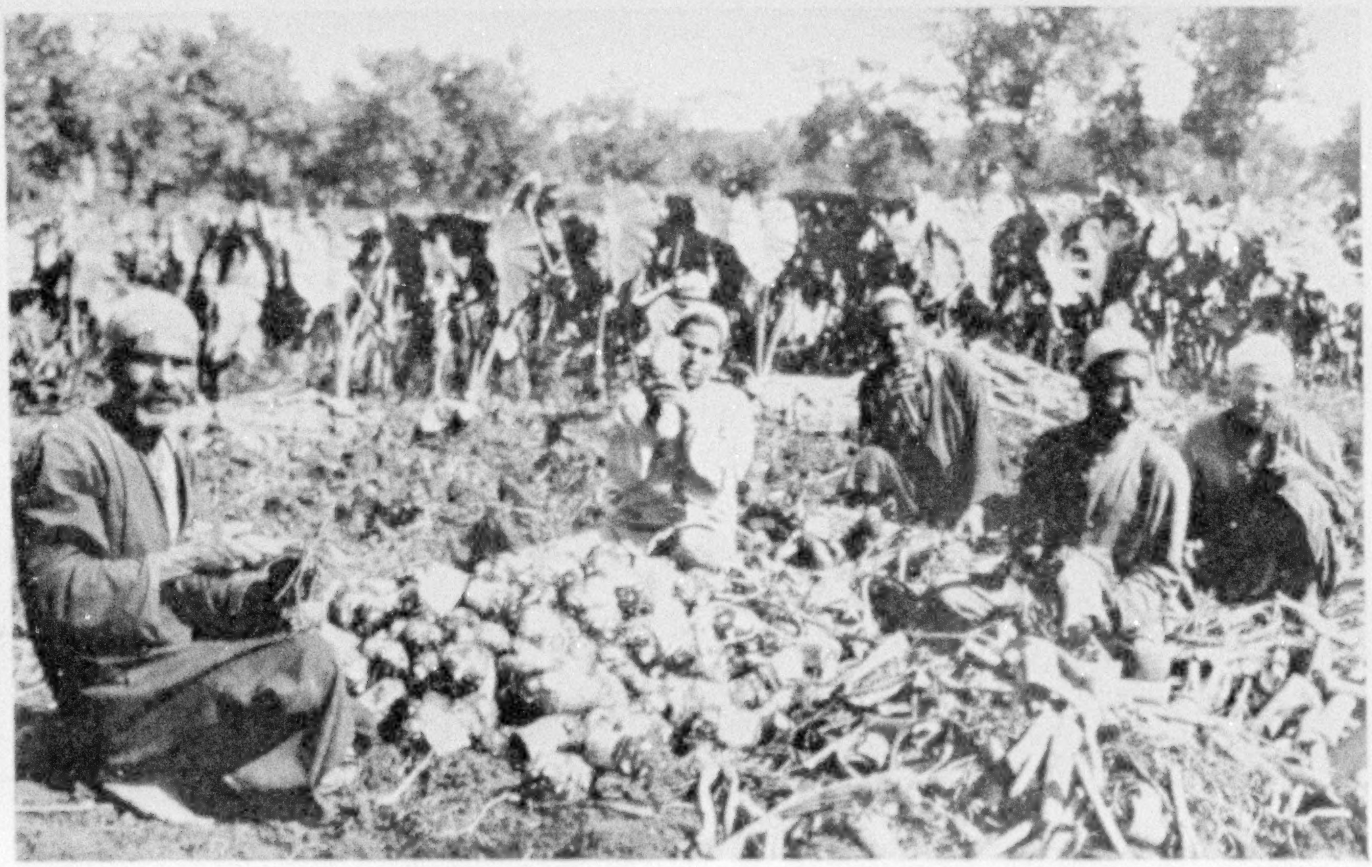
Water is rushing in from the Nile, the level of which is raised to a point above that of the fields by the great Nile Barrage, thrown across the river north of Cairo. It is this remarkable engineering achievement that enables the Egyptians to employ a system of continuous irrigation throughout the Delta.



Photograph from Alfred Pearce Dennis

OFTEN CONQUERED: NEVER CHANGED

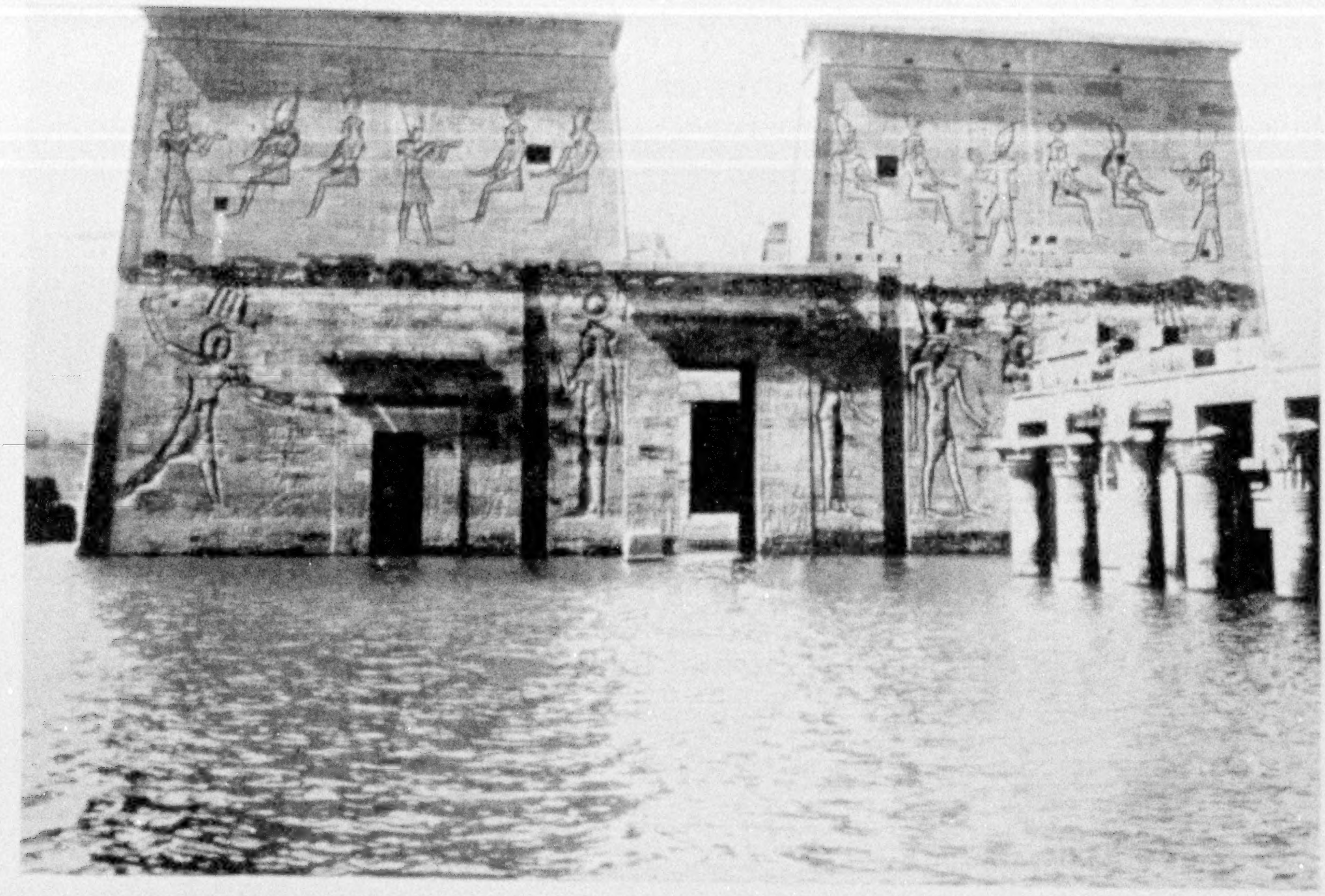
Successive waves of invaders have conquered the land of Egypt and held sway over its fertile valley, but while they have succeeded in changing the language and religion they have never changed the peasant life. These Nile farmers are threshing wheat with oxen and sledge in the same way to-day as in the days of Moses and before.



Photograph by Frank Wade

HARVESTING A ROOT CROP IN A LAND OF VEGETARIANS

The diet of the Egyptian farmer and laborer is almost exclusively vegetarian. The *qulquas*, here being harvested, is one of several root crops which, together with green corn, beans, and sweet potatoes, constitute the staple fare of the fellahin (see text, page 289).



Photograph by Gaddis and Seif

A SACRIFICE ON THE ALTAR OF PROGRESS: THE TEMPLE OF ISIS, PHILÆ

The building of the great Aswan Dam caused the Island of Philæ to be submerged from December to April each year. Its beautiful temple ruins have been strengthened to resist the rush of the waters of the Nile flood, but the fine coloring has been largely destroyed by the annual submergence. Philæ was an important shrine for the worship of the goddess Isis.

The ingenuity of man, however, has contrived by art to supplement the gifts of Nature. Nature ordained that the Nile should overflow once a year and flood the agricultural plains of its valley, bestowing at once the twin gifts of moisture and fertility. When the flood has passed and the water has subsided, the farmer sows his seed and grows his annual crop. Traditionally and historically, it is either a feast or a famine in Egypt. For a brief season the abounding flood, to be succeeded for the balance of the year by blazing suns and killing droughts.

THE ASWAN DAM IS THE KEYSTONE OF MODERN EGYPT

The ingenuity of man has harnessed the great river by holding back the flood of waters during the freshet season and doling out these husbanded supplies during the lean months of the year. Through this device, streams of living water can be carried every month of the year to the roots of growing plants.

The great stone dam at Aswan is in reality the keystone of modern Egypt. This huge rampart of masonry, which retains a 90-foot head of water, weighing 2,340,000 tons, is pierced at its foot by 180 sluice-gates. These gates, kept wide open when the annual flood is coming down, late in the summer, are gradually closed when the crest of the flood has passed. By January the reservoir is full and remains so during February and March.

When the supply of water begins to fail, in the late spring and early summer, sluices are opened and stored water added to the normal discharge.

Great barrages are thrown across the Nile farther downstream. These are masonry obstacles laid across the river's course to raise the water in the stream to the level of the irrigation canals. The Nile Barrage, a few miles below Cairo, is capable of raising the water level for the irrigation of the entire Delta by as much as 20 feet (see map, page *272*).

British Official Photograph

DICTATING LETTERS HOME

Members of an Egyptian labor corps are employing the talents of a professional scribe.

Under the old system the water had to be mechanically raised by muscular effort from the natural level of the river. Now gravity faithfully discharges a task which it would require a million aching arms and backs to perform (see page 293).

Perennial irrigation, as has been explained, means an all-year supply of water to the Egyptian farmer. The huge volume of water required for irrigating the porous soils of the Delta under the blazing semitropical sun may be put at about 20 tons per acre per day as a minimum. Cotton-growing requires about 25 tons of water daily, while rice culture requires 60 tons.

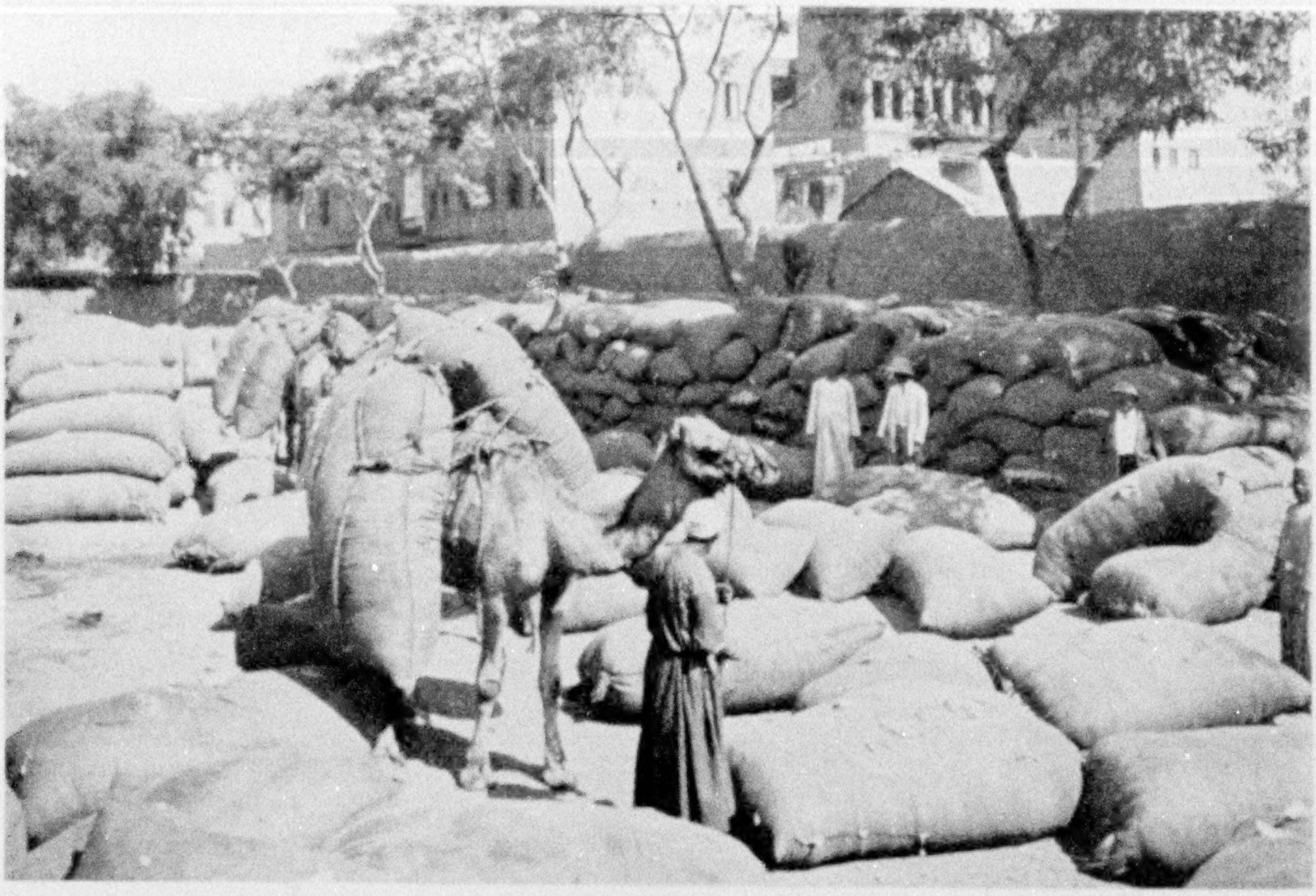
THE MYSTERY OF THE NILE IS SOLVED

Man and his works in Egypt have existed only by grace of the river. There has always been something mysterious about the annual rise of the Nile. Such a seemingly slight thing as a reversal of the winds that sweep in summer across equatorial Africa from the Atlantic would cut off the annual flood and lay waste the richest agricultural valley in the world.

But while the annual floods have varied from time to time in volume they have never in recorded history been entirely cut off. The apparition of the annual rise of the Nile is one of Nature's certitudes, as well established and as universally accepted as the rising and setting of the sun.

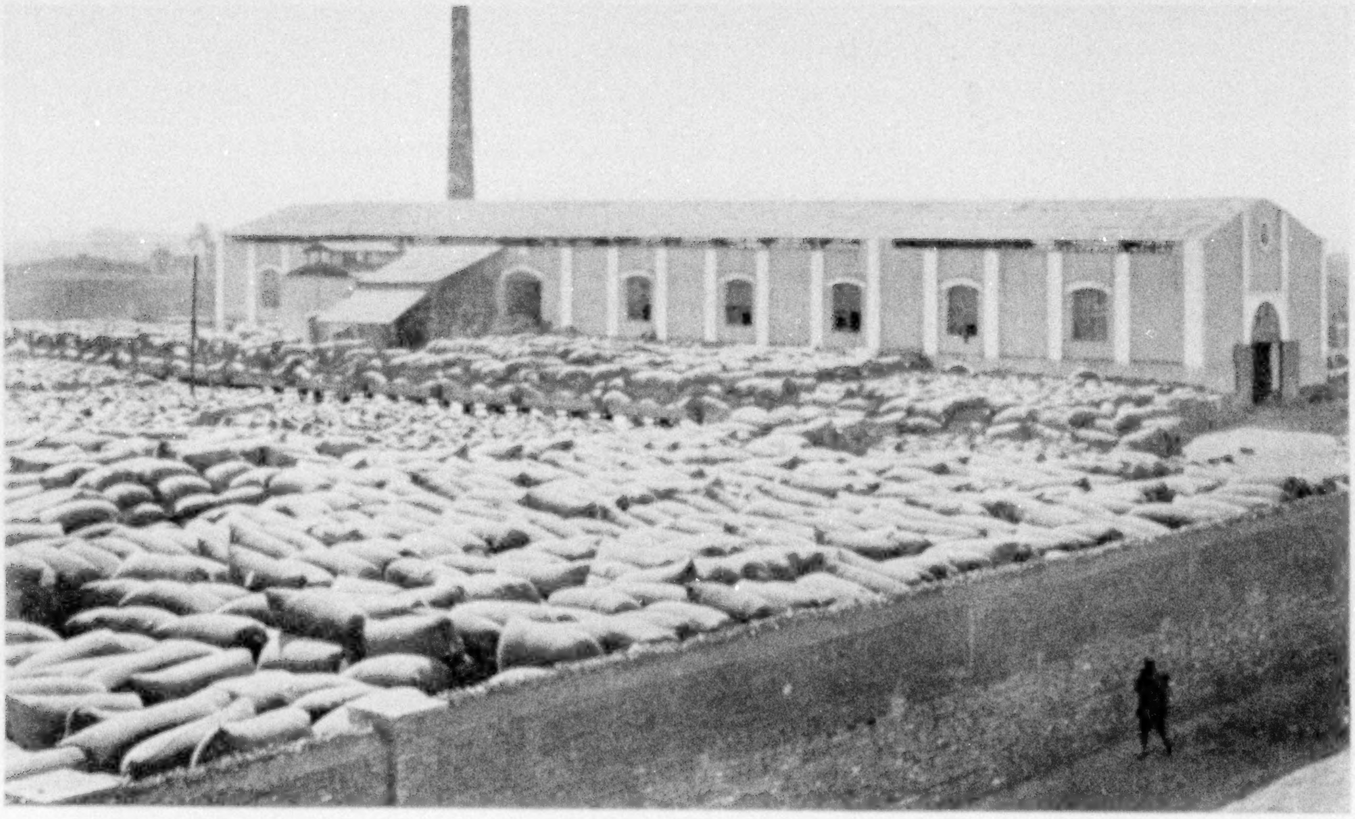
The ancient Egyptians were continually casting about for an explanation of the annual flood, but they never succeeded in penetrating to the heart of the mystery. There is no longer the slightest mystery about a subject that baffled the intelligence of the ancient world. The White and the Blue Nile, meeting at Khartum, form the great River Nile. The sources of the Nile are, therefore, dual—the one constant, the other variable.

The White Nile finds a catchment basin in a series of lakes, of which the greatest is Victoria, in equatorial Africa. This lake is some 2,500 miles by river from where the great stream debouches into the Mediterranean. The supply of water from the White Nile is fairly constant and is sufficient to furnish the River Nile with approximately the volume of water registered at mean low ebb.



BAGS OF "WHITE GOLD"

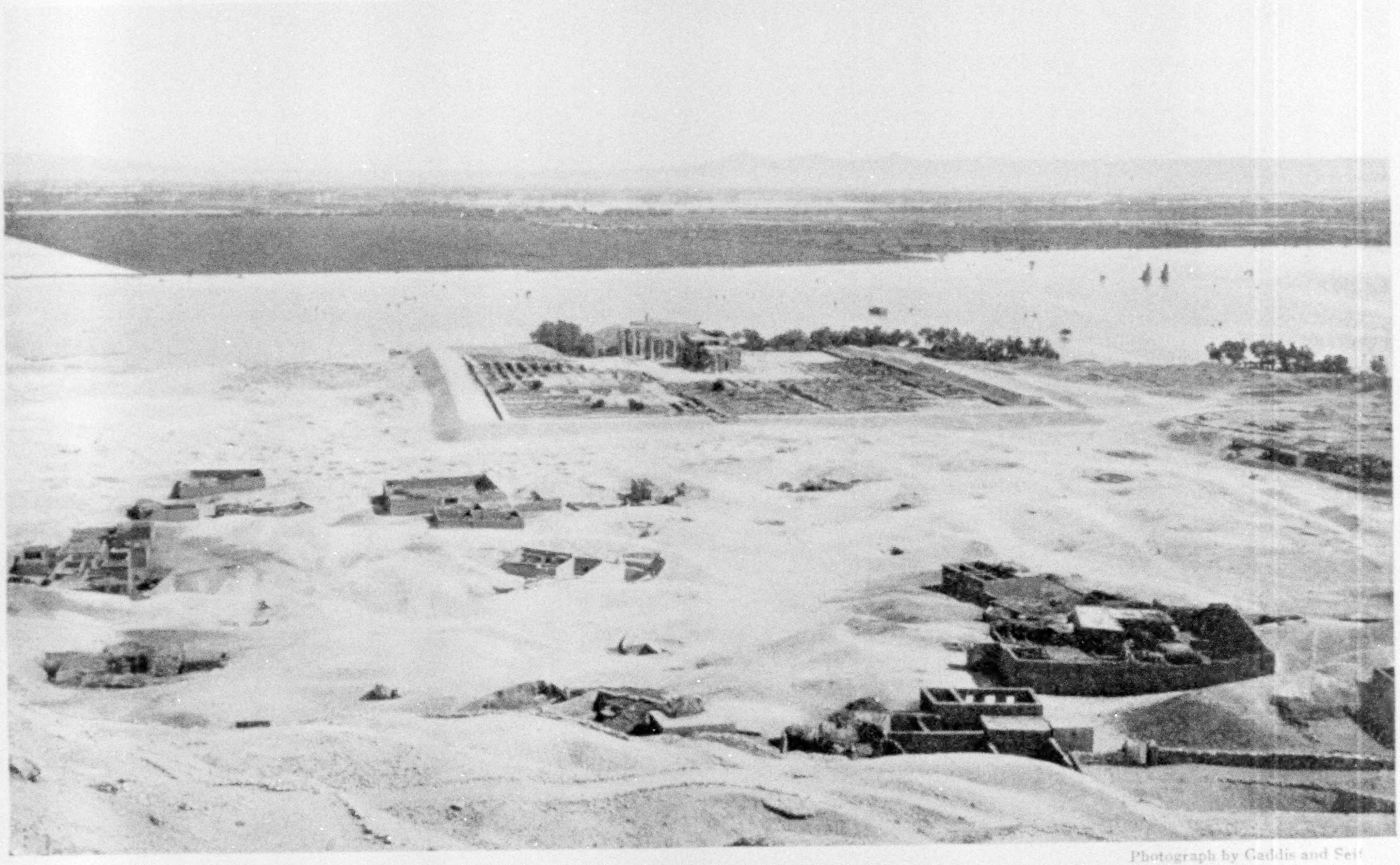
The delta of the Nile produces most of the world's long-staple cotton. While short-line railways are now being used extensively to carry the crop from the fields to central assembly points, much of it is still transported on camel back.



Photographs from A. N. Mirzaoff

THE NILE'S GIFT TO THE FELLAHIN

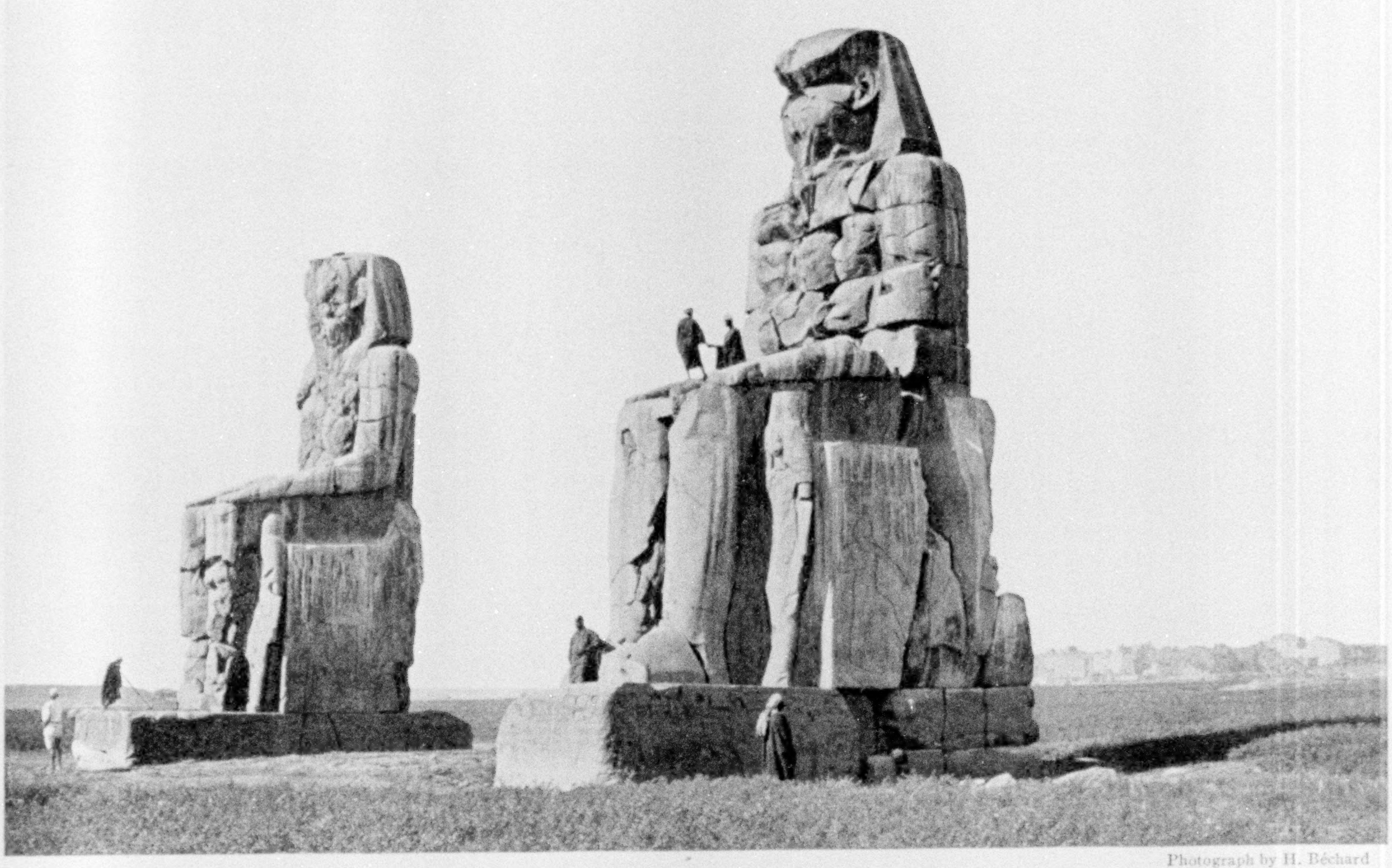
Egypt ranks third among the countries of the world as a cotton-producer. The soil and climate of the Nile Valley cause the farmer little worry, but, like the Pharaoh of Bible fame, he is scourged by an insect pest, the pink bollworm (see text, page 292). The building in the background is a cotton ginnery.



Photograph by Gaddis and Seif

A LAND RICH WITH THE SPOILS OF TIME AND TIDE

From time immemorial the prosperity of Egypt has depended upon the swollen flood that comes down the Blue Nile and inundates the narrow valley lying between the Libyan and the Arabian deserts. Here, at Luxor, the water almost laps the ruins of the Ramesseum and completely surrounds the Colossi of Memnon, which may be seen in midstream to the right (see, also, illustration on opposite page). The Ramesseum was the palace of Rameses II and in its time was one of the most gorgeous and extensive of human habitations. Across the river is a flourishing field of sugar cane.



Photograph by H. Béchard

TWO OF THE WORLD'S LARGEST AND LONGEST SITTERS, THE COLOSSI OF MEMNON

For more than 3,000 years these great sandstone images of King Amenhotep III have gazed tranquilly over the Nile Valley. Once part of a huge and richly decorated temple built by this king to commemorate his triumphs in Asia, where he extended Egypt's power beyond the Euphrates, they now stand quite alone, rising 65 feet above the ground and measuring 20 feet across the shoulders. The misnomer "Colossi of Memnon" probably came about through the misreading by the Greeks of the names of Amenhotep III. Note the statues of the king's wife and mother at either side of his lower limbs.

© Donald McLeish

MODERN "SITTERS" (SEE TEXT, PAGE 296)

More transactions are effected in Egypt while sitting in cafés than in offices. Here business is combined with the pleasure of drinking thick, inky coffee, and smoking the water pipe.

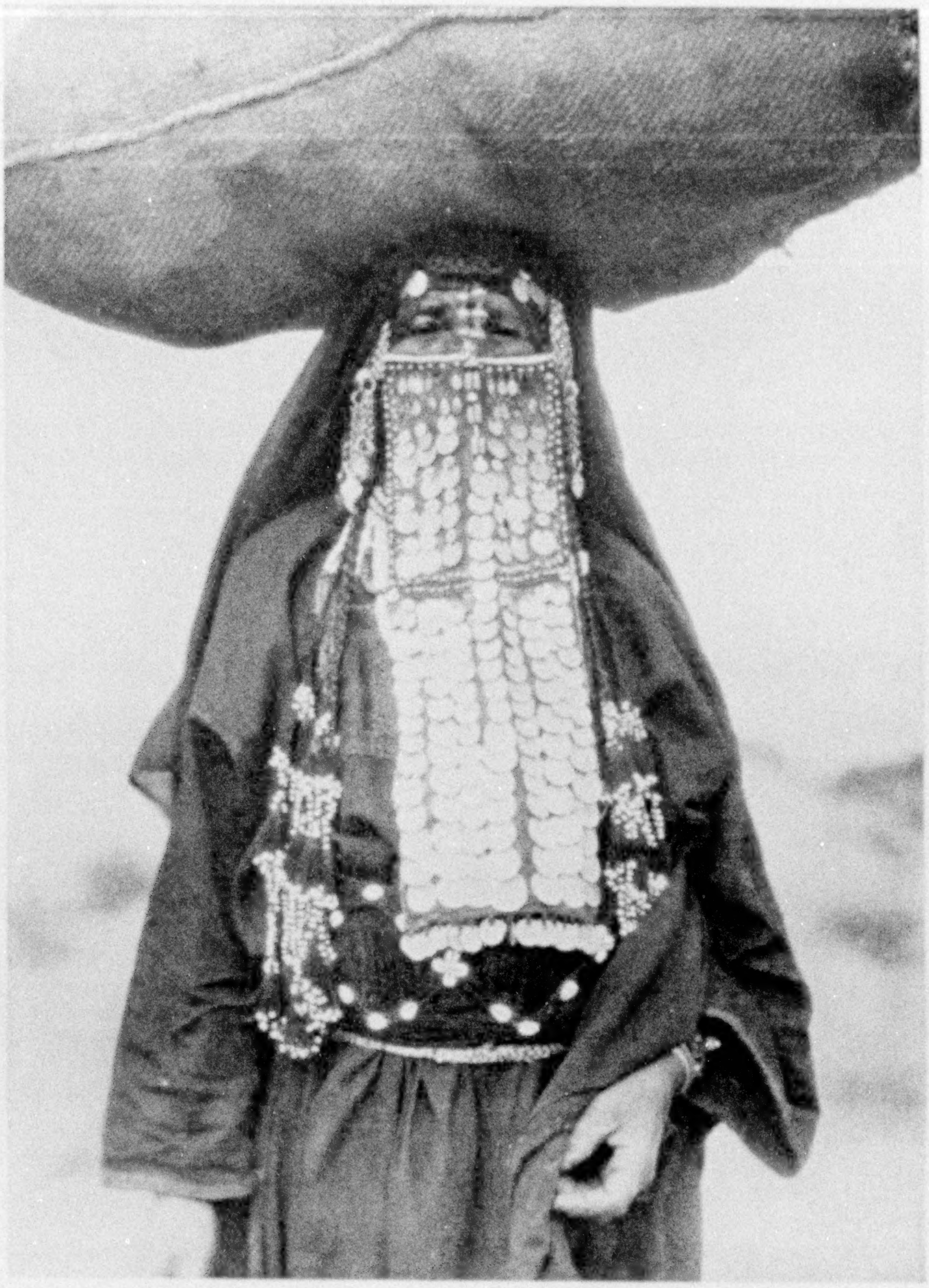
From time immemorial, however, the prosperity of the country has depended upon the swollen flood that overflows the banks of the river and for weeks inundates the surrounding region. This blessed overflow is the result of other Nile sources, which are something of a variable.

The Blue Nile and the River Atbara find their catchment basins in the highlands of Abyssinia. Late in the summer this region is drenched with torrential rains, caused by the mountain interception of equatorial winds which draw across the heart of Africa from the Atlantic. Then the Blue Nile and the Atbara rise some 25 to 30 feet above their ordinary levels, and some weeks later these freshet waters appear in Egypt as the annual inundation of the Nile (see, also, text, page 277).

This so-called "red water" from the Abyssinian highlands not only supplies moisture, but also fertility to the soils of agricultural Egypt.

There are soils in Egypt which have been cropped continuously for six thousand years and have maintained their fertility without the application of artificial manures. The modern Egyptian farmer, however, is making a shift to maintain soil fertility by growing berseem, a species of clover, which is not only a good forage plant, but which restores atmospheric nitrogen to the soil.

It is worth noting in passing that the Nile is longer than either the Amazon or Mississippi. To ascend from mouth to source requires a journey equal to the distance from Cobh to Halifax. Further, the Nile is the only great river in the world that for more than one thousand miles has no tributaries. The volume of the river at Berber is considerably greater than at Cairo, some 1,300 miles downstream. In this long journey, both earth and air exact toll from the water without yielding the slightest compensation in the form of rain or tributary streams.



Photograph by Maynard Owen Williams

A HOME SAVINGS BANK

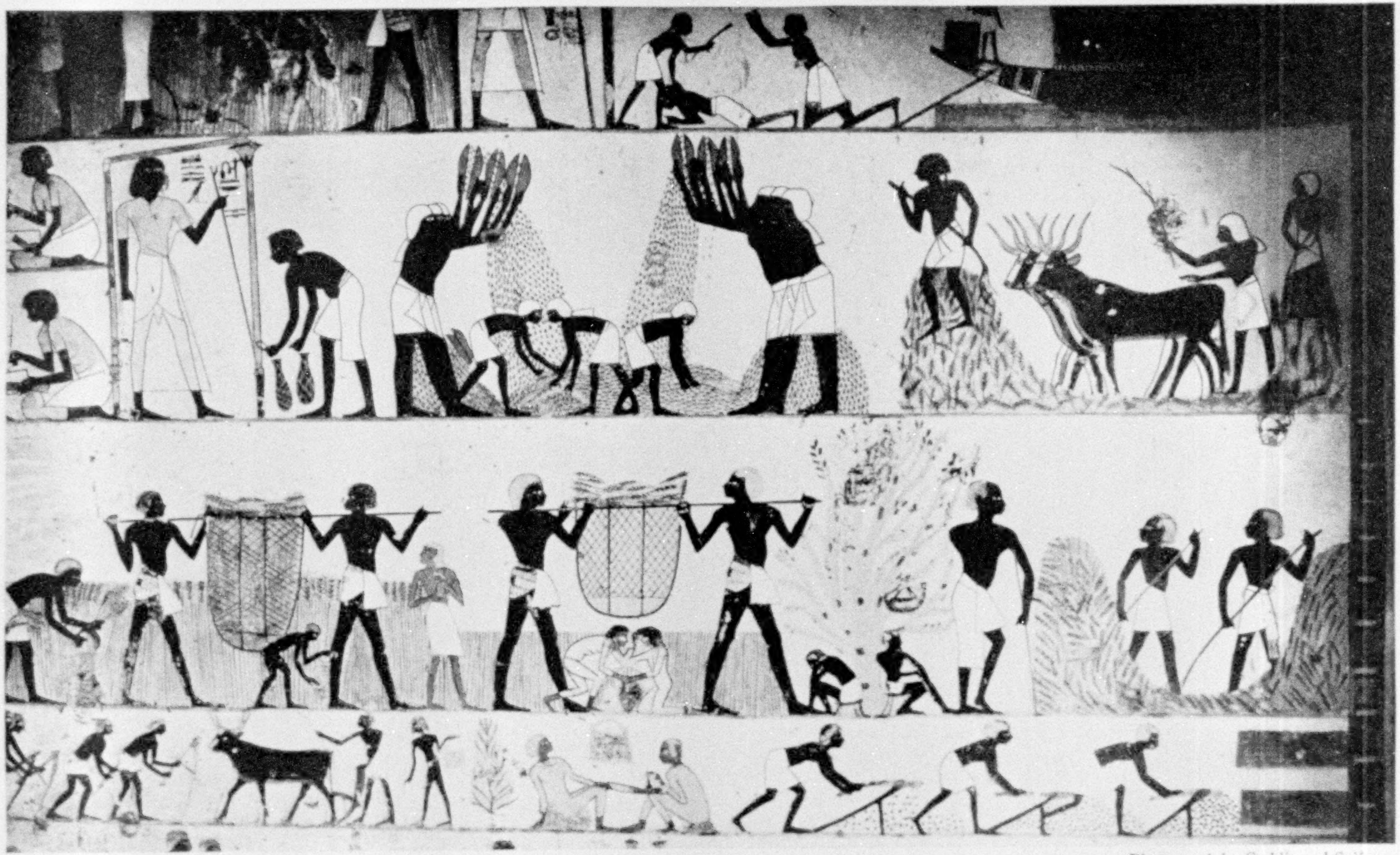
The veil which hides this Bedouin woman's face probably constitutes a good part of her family's wealth, as it is made of silver coins. Throughout the land of Egypt, jewelry represents to the native woman the ultimate power of applied wealth, and the wearing of it affords the greatest pleasure in her drab life (see text, page 295). The bag on the woman's head contains cornstalks, to be dried for fuel.

TWO ACRES TO THE FAMILY AMONG EGYPTIAN COTTON GROWERS

So much for Nature's uniformities in the scheme of Egyptian agriculture. On the human side it is interesting to inquire about the atoms that swarm over the earth's surface in the Nile Valley and how they accomplish their work of extracting a living from the soil. One hundred years ago the population of Egypt was slightly less than 2,500,000. It had risen forty years ago to 6,800,000. Since then the population has doubled.

The pressure of this rapidly expanding population upon the limited agricultural area is the most important factor in the economy of modern Egypt. The process of land subdivision is accelerated by Mohammedan law and custom, under which no man may devise real estate to any one of his children to the exclusion of the others. For practical purposes, every Mohammedan dies intestate, since no man can dispose of his estate except on the basis of equal distribution to his children. As a consequence of all this, the land is minutely subdivided.

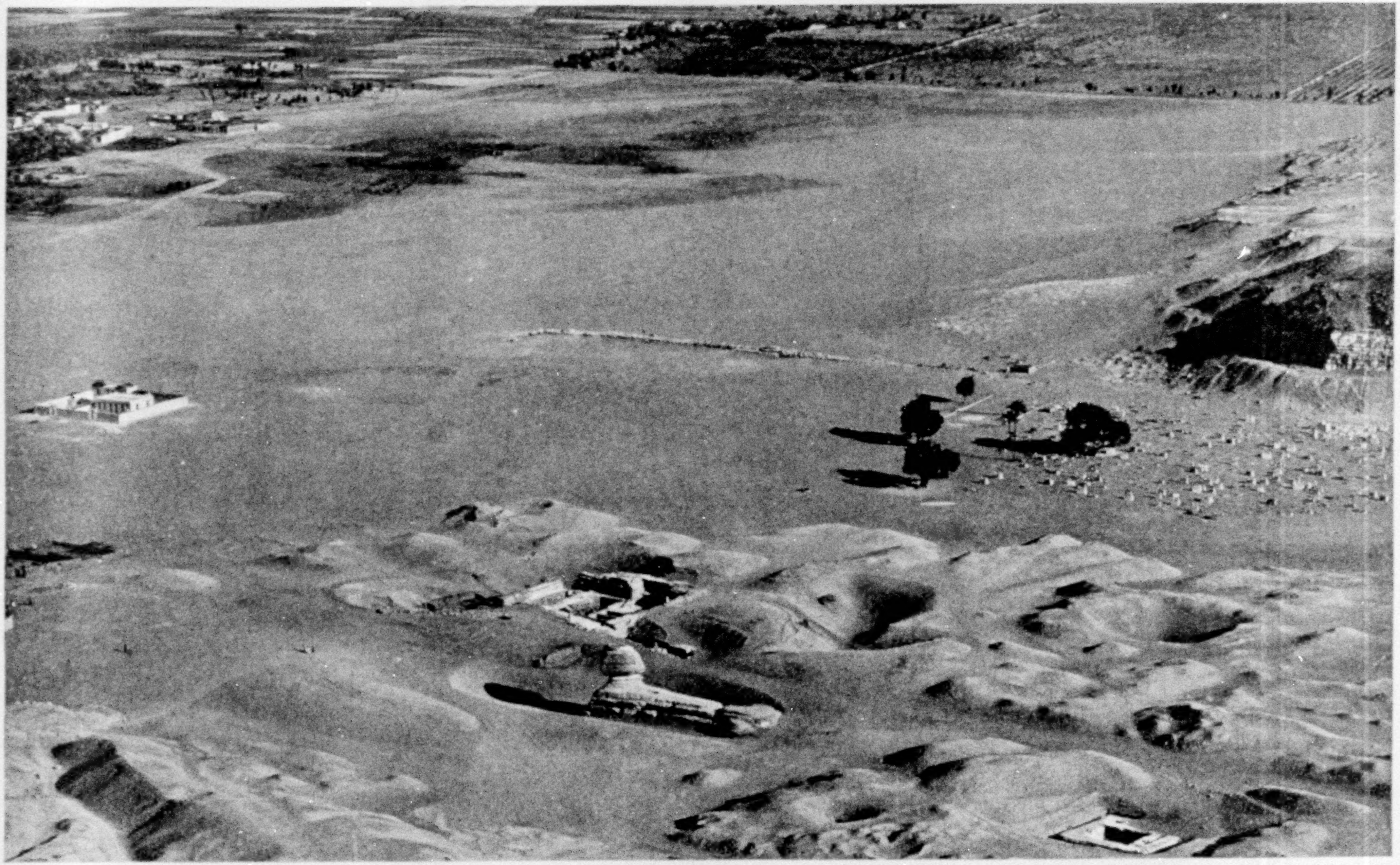
Whereas twenty acres and a mule represented the unit of cotton production in our Southern States, two acres without the mule is a fair average to a family of Egyptian cotton growers. About three and one-half acres represent the average Egyptian farm. Practically all the work



Photograph by Gaddis and Seif

ANCIENT EGYPT HAD HER MOTION PICTURES AND "COMIC STRIPS"

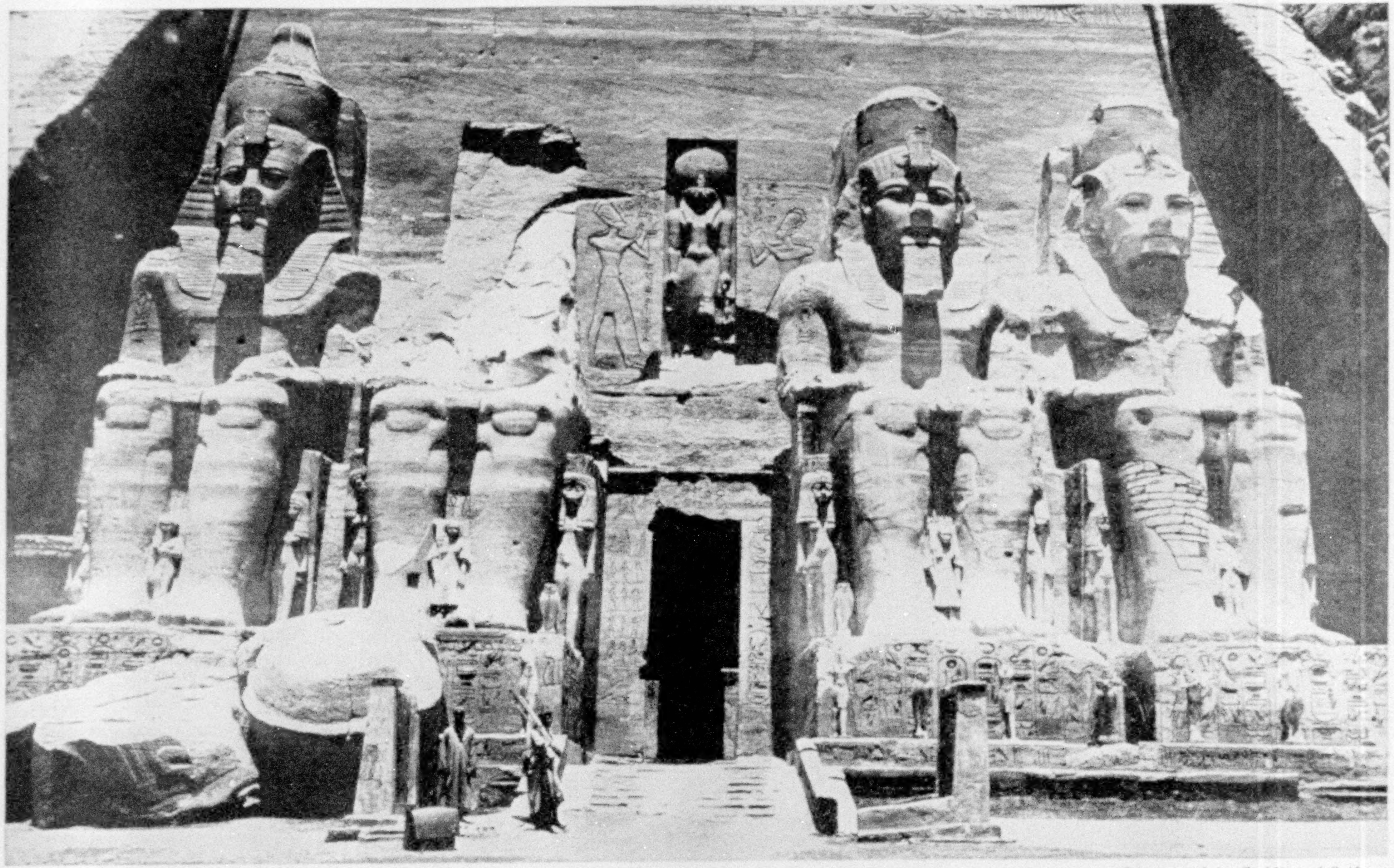
These scenes from the walls of the tomb of Menna, near Thebes, show incidents in the daily life of a superintendent of the king's estates. The early Egyptians believed that by depicting scenes from the life of the deceased on the walls of his tomb permanence of occupation was imparted in the life beyond the grave. In the case of Menna (standing under a shelter, holdng his staff, at the upper left) some enemy has removed the superintendent's eyes to prevent his overseeing the various agricultural operations, such as winnowing the grain. Note the woman removing a thorn from another's foot, at the bottom of the picture, and the hair-pulling contest between the two girls in the middle panel.



Photograph by Charles E. Ward

THE SPHINX AND ITS ENVIRONS PHOTOGRAPHED FROM THE TOP OF THE PYRAMID OF CHEOPS (SEE PAGE 270)

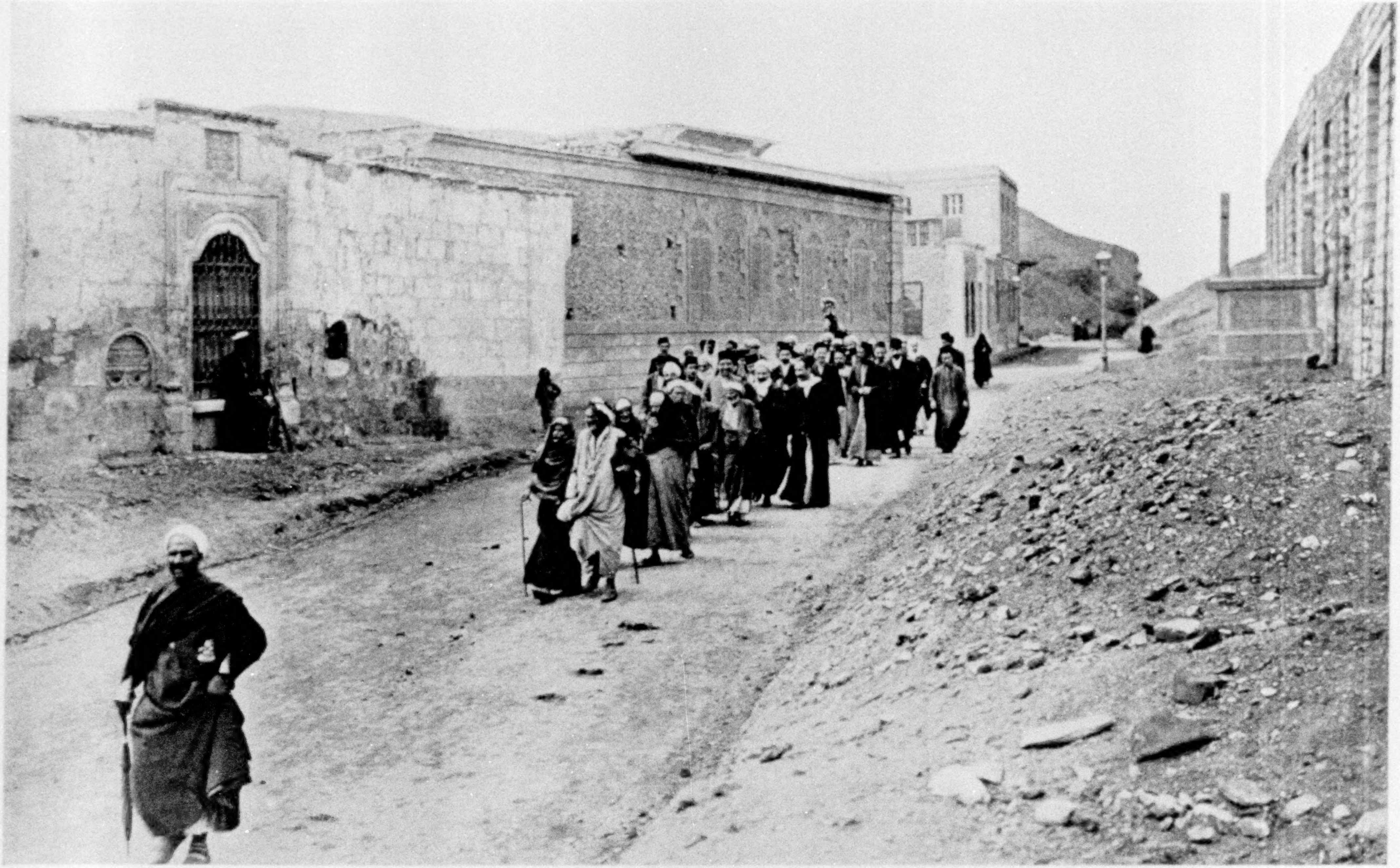
In ancient Egypt cities were usually built on the east bank of the Nile, and the royal cemeteries, or "cities of the dead," were located on the west side of the river. This gave rise to the association of the land of the dead with the West. The Sphinx, seen in the central foreground, has watched whole dynasties of great rulers pass into the "Western Land." In the middle distance, to the left, is a resthouse belonging to the Egyptian Government; to the right is a village cemetery.



Photograph by Gaddis and Seif

COPY PREPARED BY AN ILLUSTRIOUS ADVERTISER

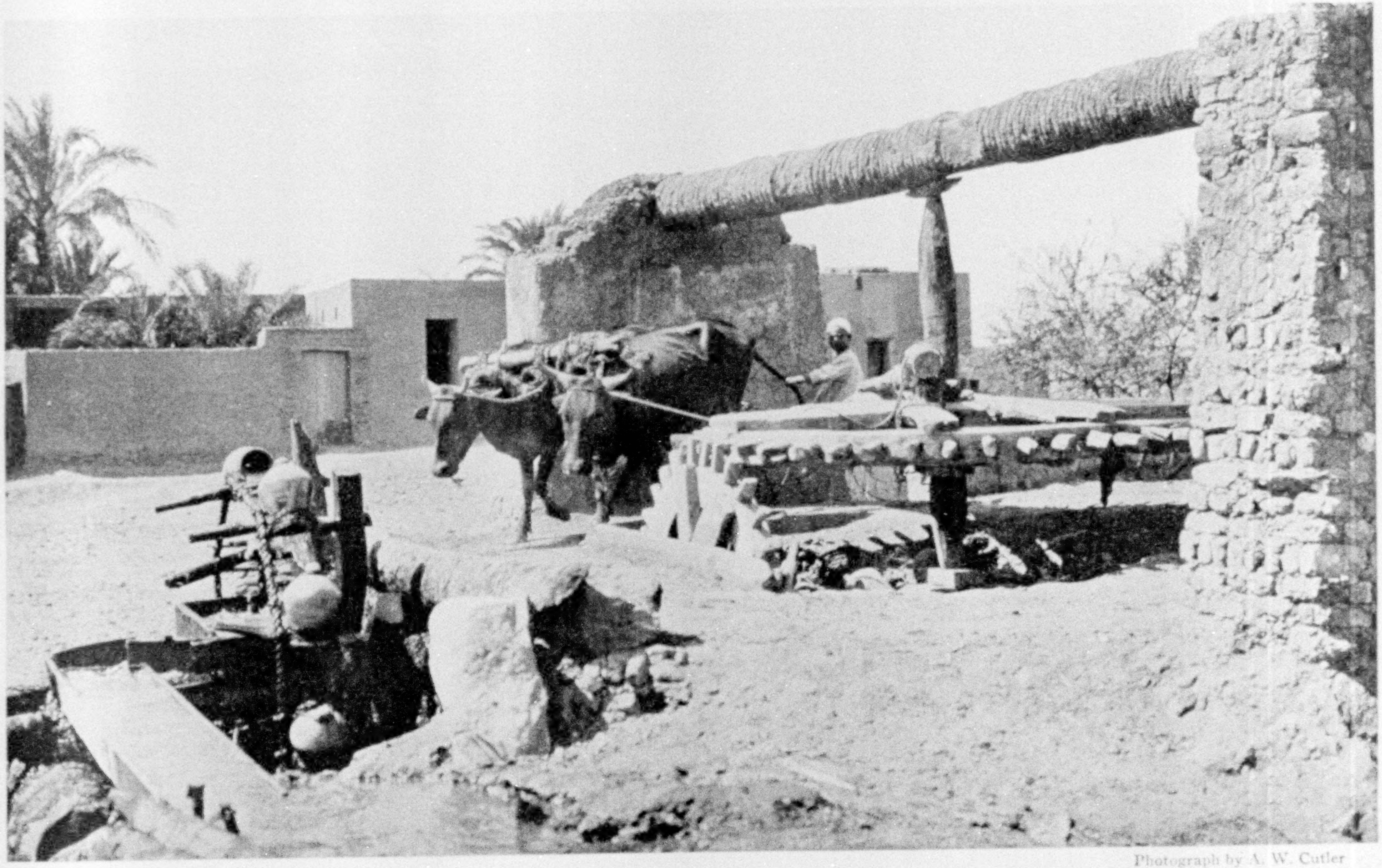
Rameses II, most famous of the Pharaohs, conclusively demonstrated the value of advertising some 3,000 years ago. These colossi in front of the great temple which he carved out of the rock at Abu Simbel are typical of the way in which he scattered his image over the land, and while modesty was not a virtue common to any of the Pharaohs, most of them appear as only amateur egotists when compared to this notorious megalomaniac, who even altered the statues of his predecessors into likenesses of himself.



Photograph by A. W. Cutler

THE FUNERAL PROCESSION OF A MEMBER OF THE POORER CLASS OF CAIRO

Men are hired to precede the procession as professional wailers and others to recite verses of the Koran (see, also, text, page 290).



Photograph by A. W. Cutler

PRIMITIVE IRRIGATION METHODS STILL PERSIST IN SOME PARTS OF EGYPT

For thousands of years before the days of the Nile barrages and the great Aswan reservoir, the Egyptian farmer who could afford to own one or two oxen, camels, or other domestic animals irrigated his farm by means of a *sakieh*, or water wheel. The animals supplied the power to raise water in jars or buckets from a well or a pool by the river (see, also, illustrations, pages 292 and 293).

of soil tillage is done by hand. Something like a double fixed labor charge rests upon the land through the necessity for irrigation.

A MASSIVE MONUMENT TO VEGETARIANISM

The Egyptian peasant lives very much after the manner of the old-fashioned Southern Negro of our cotton plantations. Two staple foods among the latter are corn and sweet potatoes. This is precisely true in the case of the Egyptian peasant, who can grow his corn the year around. The Egyptian sweet potato is a gross, insipid thing and, in the language of the tobacco trade, is good for filler rather than flavor.

The modern Egyptian farmer displays a tireless capacity for muscular effort, but he hardly knows the taste of meat. He stands, in the matter of diet and agricultural technique, just about where his ancestors were in the days of the Pharaohs.

King Cheops is said to have expended 1,600 talents of silver (about $1,700,000) on radishes, onions, and garlic roots for the 100,000 men who labored for three months every summer for 30 years constructing the Great Pyramid, which, like other similar Egyptian stone piles, is veritably the work of men's hands.

This product of human brawn and muscle, reared some 58 centuries ago, required about 2,300,000 separate blocks of stone averaging around 2½ tons each in weight. The stones, therefore, in the Great Pyramid would load 115,000 American steel gondola cars of 100,000 pounds' capacity. In other words, the train make-up of the material in the Great Pyramid would require a solid freight train extending from Philadelphia to Chicago (see page 270).

These heavy stones were quarried, transported across the Nile Valley, heaved up into place on the edge of the plateau marking the beginning of the Libyan Desert, and laid so true in the structure that the blade of a knife does not find its way into the crevices between the blocks.

If this astonishing product of muscular effort was achieved by men whose diet was nothing more than radishes, onions, and garlic, the Great Pyramid is not only the most stupendous monument ever reared by man, but it is at once the most impressive tribute to the merits of vegetarianism that the world has ever seen.

The meat-eaters, however, counter this argument by remarking that if the modern Egyptian wants to get anything done in the way of massive construction, such as the Aswan dam or the Nile Barrage, he must of necessity call on the meat-eaters of western Europe to come down and perform this service for him.

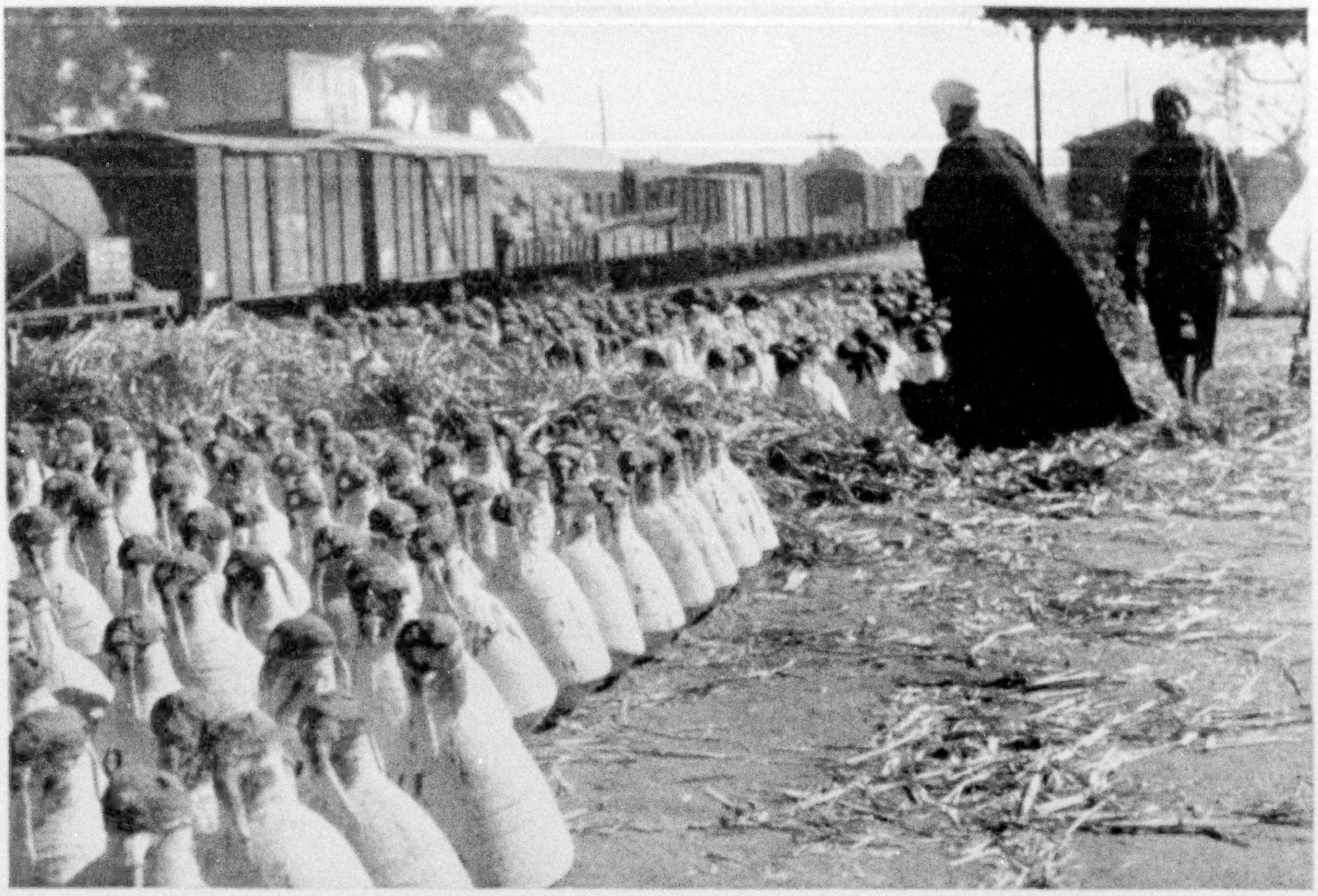
AGRICULTURAL IMPLEMENTS HAVE NOT IMPROVED IN 4,600 YEARS

The Egyptian farmer is a conservative of the conservatives, both in the matter of his foods and in the methods he employs for cultivating the soil. Egypt, despite 6,000 years of civilization, has not risen from the primitive agricultural stage of society. The age of industrialism is yet to be. Agricultural progress lags unbelievably.

At Sakkara may be seen the excavated home of the wealthy farmer Ti, who flourished some 2,700 years before Christ. The home of Ti is embellished with mural decorations depicting his agricultural activities. One of these pictures represents Ti bossing the threshing of his grain. The job was done on a threshing floor precisely the way the operation is carried out to-day.

Another scene depicts the plowing of Ti's estates with bullock-drawn wooden implements. Here one marks a change in agricultural methods. Ti's plow has two handles; the operator, walking behind the implement, guides it true, much as a modern American steel plow is held to its course by the man who follows it in the furrow. The modern Egyptian plow is also of wood and is likewise drawn by bullocks or camels, but the implement is usually guided by a single wooden upright rather than by two handles, and the operator walks by the side of the plow rather than behind it.

It is obvious that in the 46 centuries that have elapsed since the days of Ti the primary agricultural operation of plowing has not only made no progress, but has actually suffered retrogression. If Ti could be restored to his estates to-day, after the lapse of 4,600 years, no one in Egypt could reproach him with being an old fogy; indeed, his two-handled plow



Photograph by Maynard Owen Williams

"BLACK HONEY" READY FOR TRANSPORT

Molasses is a by-product of the sugar industry and is an important item on the menu of the Egyptian of moderate or small means. At Naga Hamadi, where these jars of molasses (known in Egypt as black honey) await shipment, another barrage is very shortly to be thrown across the Nile, similar to that at Esna (see map, page 272).

might be regarded as a rather impractical sort of contraption!

SCOUNDREL AND BENEFACTOR PRAISED ALIKE

The Egyptian sticks to what has been accepted by his forefathers in the food he eats, in the way he cultivates his land, and, in the case of the townsman, even in the conventional compliments he dispenses.

Much depends upon etiquette and ceremony. Ceremonial observances the world over are the last to change in the altered conditions of a changing world. When passing the Mosque of Sultan Hassan, in Cairo, the writer dropped a small copper coin of the value of a cent in the open palm of a distinguished-looking citizen who sat by the wayside begging. The virtue of charity had its immediate reward in a neat little speech of thanks expressed in sonorous Arabic.

"What is that fellow saying?" we inquired of our guide.

"He says you are one fine gentlemans, and that every day of his life, as long as he lives, he will implore Allah to make you a great lord in your own country and a fruitful father of a multitude of children."

Pleased and touched, we stepped back and bestowed further largess to the amount of an additional cent.

"What does he say now?" it was demanded.

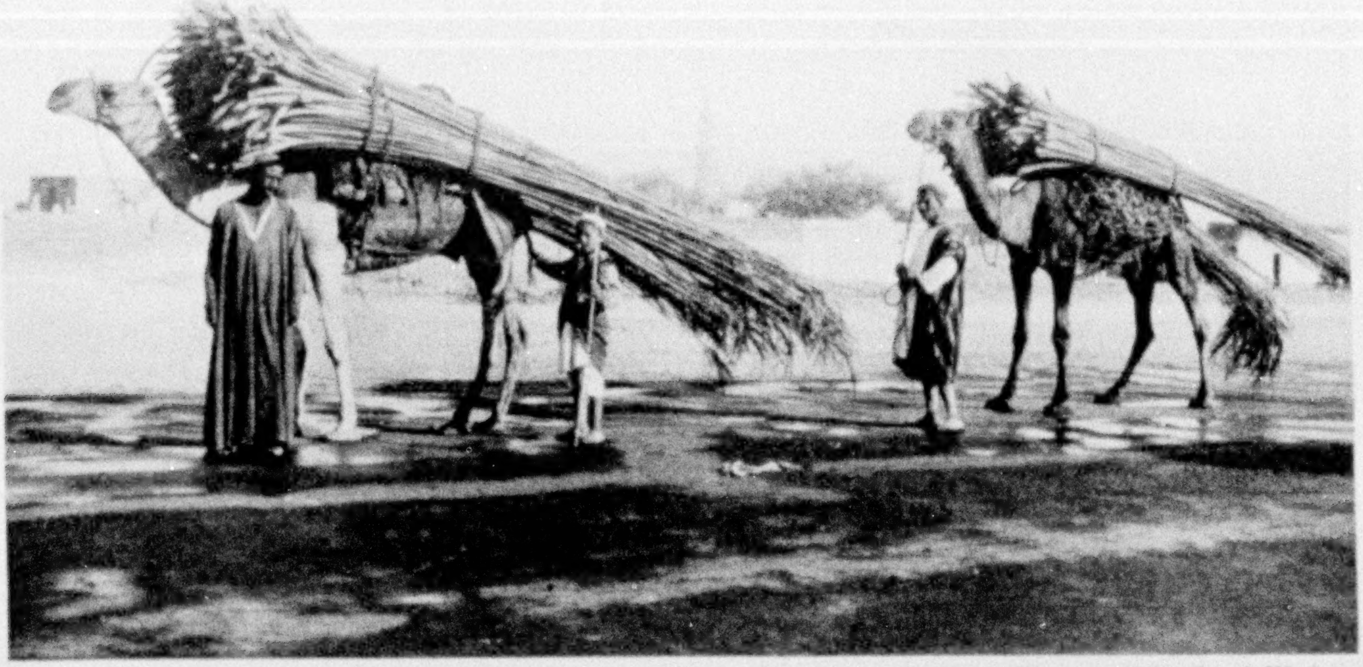
"He remarks that Your Excellency is the greatest doer of good works in all the world."

We later encountered in our progress a funeral procession issuing forth from a humble dwelling (see page 287).

"The man who has just died was one of the meanest scoundrels in town," our guide judicially remarked.

"But what are the hired mourners chanting?" we asked.

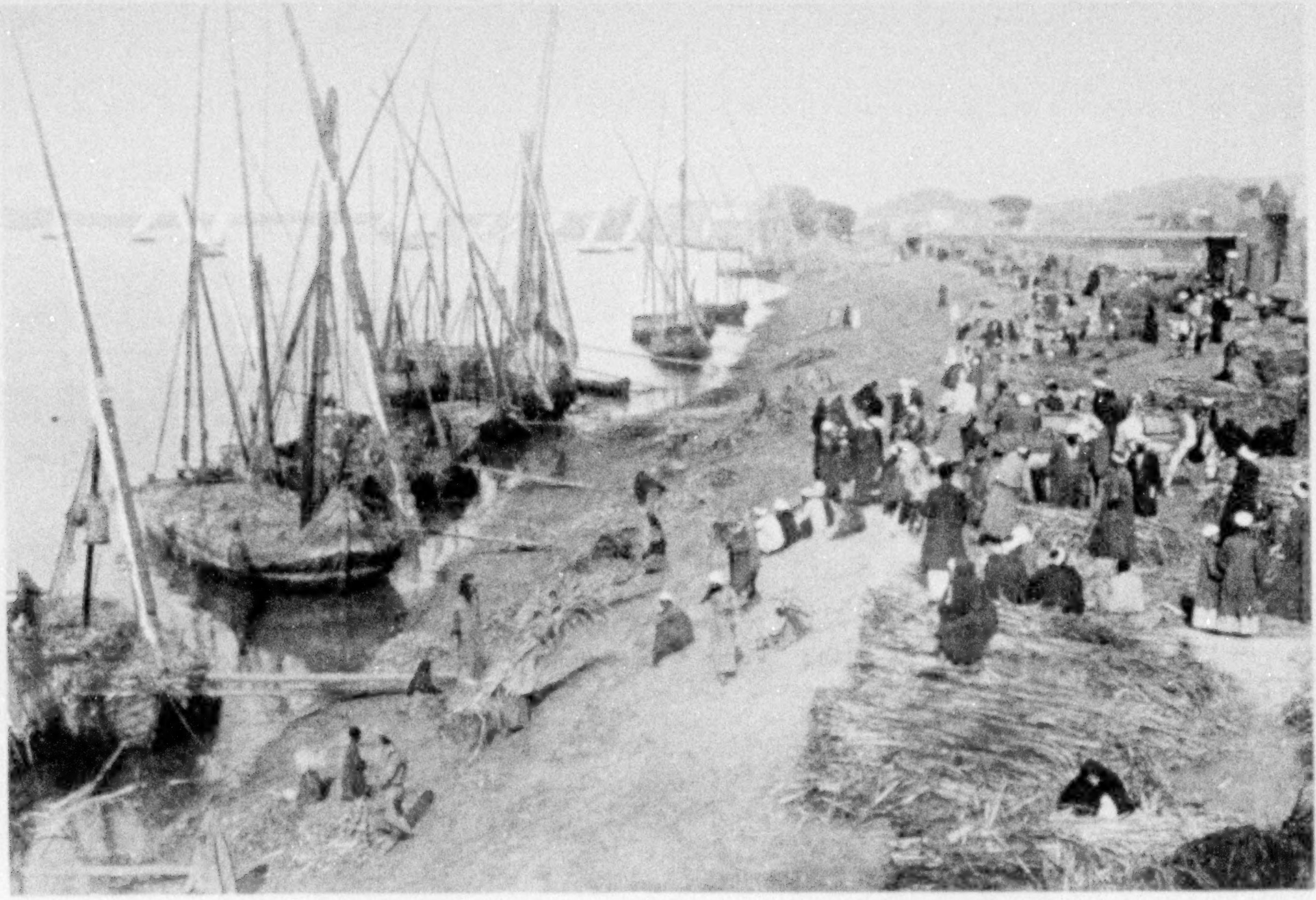
"Master, they are saying that the deceased was the greatest doer of good works in all the world."



Photograph by Frank Wade

A CAMEL CARGO OF DATE-PALM STALKS

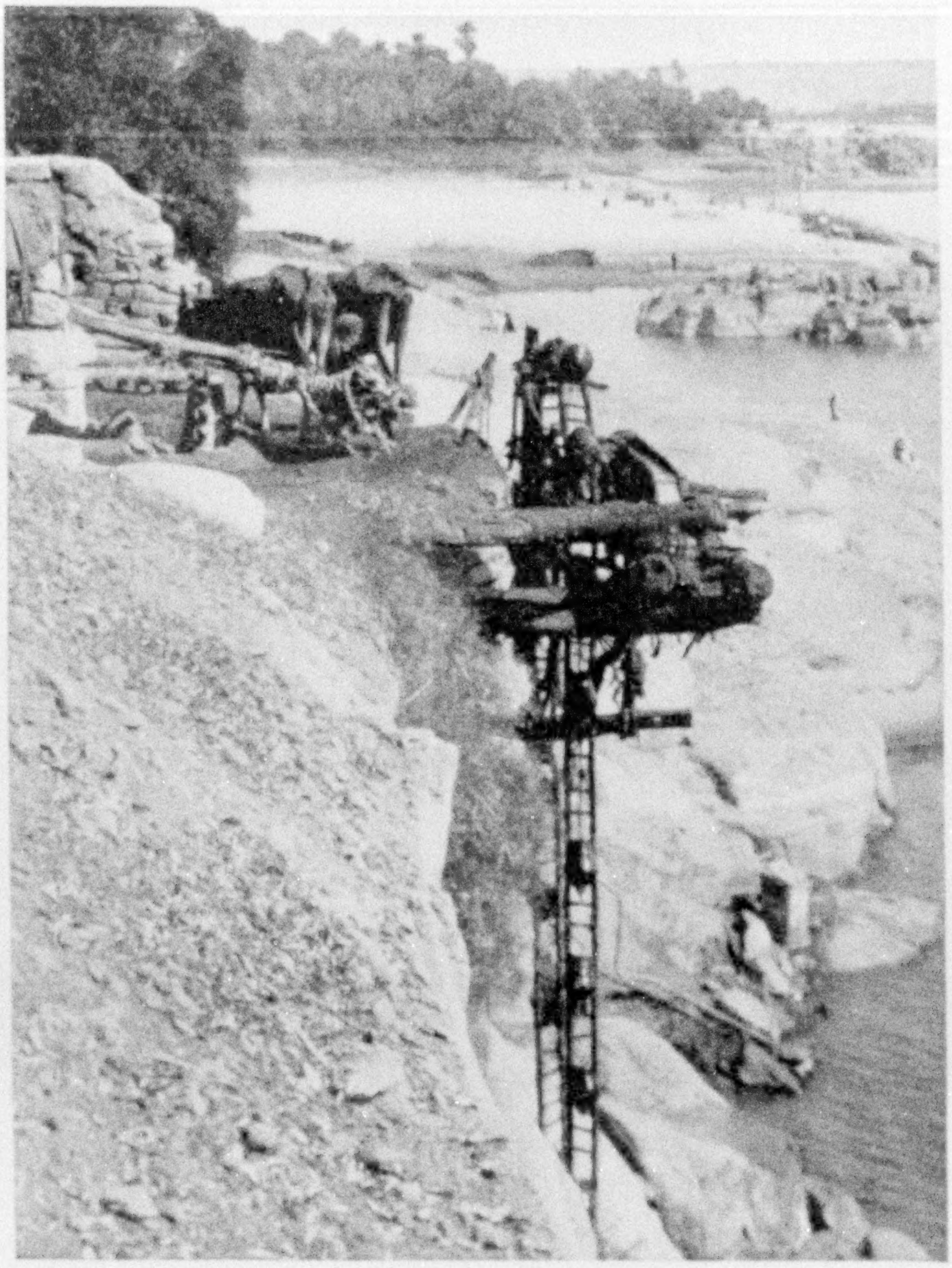
Among the multifarious gifts of the date palm to dwellers in Africa and the Near East is the raw material from which chairs, bedsteads, and baskets are made.



Photograph from Frederick Simpich

CANE HARVEST TIME ON THE BANKS OF THE NILE

At this season the larger canals along the river present a busy scene. Fleets of the picturesque *markabs,* or Egyptian freight boats, transport the cane from field to factory. Egypt exports some 40,000 tons of sugar annually.



Photograph by Earle Harrison

A WATER LADDER IN NUBIA

This contrivance is merely a variation of the *sakieh* (see page 288). It operates much on the same principle as a dredging machine, save that it raises water instead of mud.

"But that is exactly what was said of me."

"True, Your Excellency, but the words are the same for all persons."

A witty English playwright has well remarked that calling for sincerity in a ceremonial society is like demanding steel girders for a house of cards.

THE PINK BOLLWORM IS THE EGYPTIAN'S PLAGUE

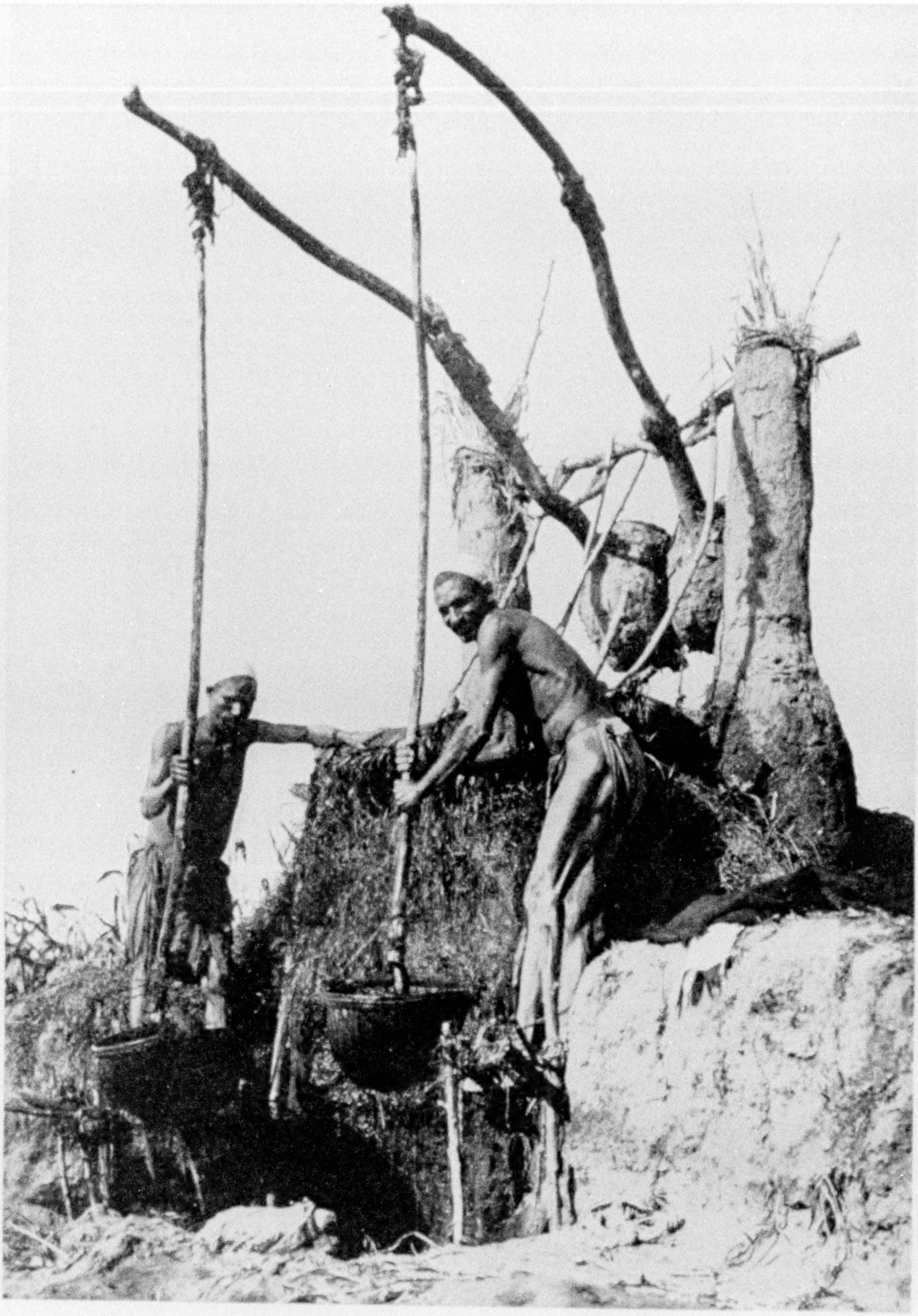
Despite the fact that the Egyptian farmer has little to worry about in the way of soil or climate, I doubt if his lot is one whit easier than that of his ancestors, who sweated in the sun 5,000 years ago lifting water from the River Nile.

Modern engineering has hitched up gravity to do the work of tens of thousands of water-lifters, but modern Egyptian farming pivots around the cultivation of cotton, and making a cotton crop in the Nile Valley is no easy job. While the cotton plant must have abundant moisture, often the surface water conducted to the plant in irrigation ditches finds a subsurface level in the porous soil and rises until it has reached the roots of the plant.

Plants breathe through their roots as well as through their leaves and deep-rooted plants, such as cotton, will often sicken or even die from subsurface drowning. There are some field growths, such as rice, which can root-breathe under water, but they are the exception.

Another drawback to cotton growing is a miserable little maggot known as the pink bollworm. Nature has produced two worms, operating in their respective spheres, which industriously compete for the attention of the fabricator of silk and imitation silk stockings. The energetic silkworm works along constructive lines and turns out the real thing. The pink bollworm works along destructive lines, attacks the imitation thing, and thus confirms the silkworm in his age-long position of importance.

Modern science struggles ineffectually to rid the land of Egypt of this insect pest, just as the despotic king of the Biblical narrative fruitlessly strove to be quit of the insect plagues of the lice and the locusts.



Photograph by Gaddis and Seif

WHERE TOIL IS THE LAW OF THE LAND

For millenniums the Egyptian farmer has used the *shaduf* to raise water from the Nile to the level of his fields. At low water several of the contrivances must be used, the water being lifted from one basin to another, up a series of terraces, entirely by man-power. In the dry season a shaduf working continuously can supply the water necessary to irrigate about two acres of land. Modern irrigation methods have greatly decreased the number of shadufs in operation, with a consequent tremendous saving of labor.

The desperate need of the Egyptian peasant for fuel has something to do with his ill success in fighting the bollworm. Egypt has no forests, and the farmer depends to a great extent upon dried cotton stalks for fuel. The hoarding of cotton stalks for fuel carries infected bolls over from one season to another.

Making bricks without straw is a simple operation as compared to making fires for cooking without fuel. One observes the household economy of the Egyptian peasant reduced to its lowest terms in the attempt to prepare a meal of green corn in the ear over a mosquito smudge of two or three smoking cotton stalks.

THE TRAGEDY OF THE EGYPTIAN PEASANT WOMEN

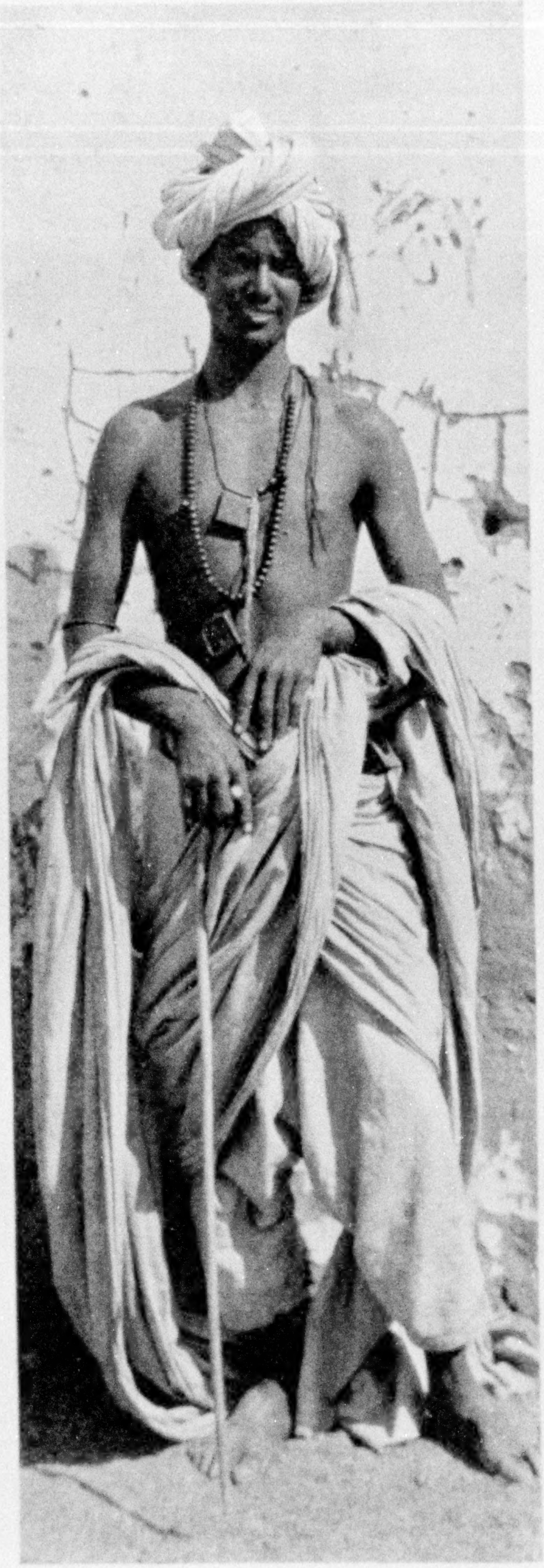
And the Egyptian women, in these rustic huts improvised of Nile mud, how little we know about them! What is going on in their minds, these sad-eyed, dumb, driven creatures, whose erect bearing and delicately chiseled features would mark them as distinguished among any people of the earth? I have never seen one smile, nor gesticulate, nor fly into a temper.

Have these meek, humble women ever heard of their proud golden queen, Cleopatra? I doubt it. Not one in twenty can read or write. To them life brings nothing unexpected, nothing that can be hoped for beyond what has gone before.

Five thousand years ago labored here, through the brief space of their fruitless lives, similar men and women, performing exactly the same tasks—dull, unimaginative, uninstructive lives.

The Arabians have a precious, overworked word, *malea'ash,* second only in importance to their blessed word, *baksheesh,* which can be variously interpreted—"What is the use?" "It is Fate." "Why struggle?" "Never mind." "It is Destiny." The Egyptian woman's philosophy of life is one of resignation—"malea'ash." It is Destiny.

It is doubtful whether all the labor-saving machinery ever invented has lightened the toil of a single human being. Modern inventions increase the capacity for production and enable more people to live, but just as many people as before live laboriously and painfully. The women



Photograph by Earle Harrison

A DESERT APOLLO

The nomadic Bedouins of Nubia are for the most part a handsome race. The beads, charms, and amulets worn around the neck are supposed to ward off the "evil eye."

who work in the clothing sweatshops of New York or London, with their improved sewing machines, have a productive capacity tenfold that of the old needleworkers, yet I doubt if they labor one whit less than the nameless needlewoman in Thomas Hood's "Song of the Shirt."

It has been remarked that modern irrigation and the cultivation of long-staple cotton has enabled two people to live in the Nile Valley where only one could exist before; but it is doubtful whether the modern Egyptian lives better or more comfortably than did his forefathers in the time of the Pharaohs.

One feels rebuked for a life of comfort or happiness in the presence of dull, commonplace lives given over to treadmill labor which brings nothing but the bare satisfaction of animal necessities. "In this ill-regulated world," remarks George Sand, "all happiness seems a theft, since so often we cannot enjoy our peace and security except to the detriment of our fellow creatures."

Perhaps these illiterate people, who are without public diversion or amusements, will some day have a new heaven and a new earth opened to them through music, the universal language, or through motion pictures, which constitute the only legible writing for the illiterate.

Motion pictures have already found a vogue in some of Egypt's larger cities. American films predominate. The figure of the dare-devil desperado shooting up a Western mining camp thrills the Egyptian, who is as simple and as unaffected in his mentality as a child.

The writer saw in Cairo a film which depicted an American cowboy rescuing a babe that had been cast upon the waters when a prairie schooner capsized in fording a mountain stream. The job was accomplished by a clever bit of lariat work. Of course, the hero was rewarded by the bestowal of the heart and hand of the infant's beautiful aunt, who theretofore had rejected his addresses. The screen picture of the babe securely riding the flood in a water-tight cradle invoked historic reminiscences. Nothing less than the motif of Moses in the bullrushes, which, having worked its way around the world, had returned in new form to surprise and delight the Egyptians!

If one is a bit skeptical about Moses and the bullrushes, all he has to do is to drive out to the suburbs of south Cairo, where any guide, licensed or otherwise, will be pleased to show him the exact spot where the bullrushes grew on the banks of the Nile and where the infant Moses was found.

WEARING JEWELRY IS THE NATIVE WOMAN'S ONLY PLEASURE

It is hardly fair to remark that the native Egyptian woman has no public amusements. Certainly she has one pleasure, namely, the diversion of wearing jewelry. To her jewelry represents the ultimate power of applied wealth. There are more jewelry shops in Cairo than in any other city of its size in the world.

There are reasons outside of vanity why popular taste runs to jewelry. The Mohammedan law forbids lending money at interest. The countryman is suspicious of banks. There are no industrial undertakings to attract investment. Consequently, savings are either buried in the earth or invested in jewelry (see p. 283).

Land has always been favored for investment, but the price of agricultural lands has now been bid up above sound investment levels.

It is not uncommon to find an Egyptian heiress carrying her entire fortune displayed in the form of anklets, bracelets, and of rich festoons which, when strung from neck and shoulder, descend in opulent strings upon the person. The poorer countrywoman, of course, must content herself with imitation stuff.

As an Italian poet has termed the Adriatic, with its age-long strifes, that "Bitter Sea," so one of the foremost of living British novelists speaks of the Mediterranean as a "Tired Sea." Hard by its shores have dwelt old peoples, exhausted peoples, dead empires, leaving only relics behind of their bygone greatness, like the fossil remains of the huge extinct animals that encumber the halls of our natural-history museums—mighty saurians that in their day rejoiced noisily in their fruitless lives.

The Mediterranean shores are littered with the fossil remains of swollen successes, of booms that have waxed and waned—Carthage, Tyre, Nineveh, Syracuse, Troy.

In Egypt the symbolic figure is the man who sits. The shopkeeper sits, the opera singer sits. Business is not done in an office, but sitting in a café. The city man appears to get into his best business stride, so to speak, sitting still (see page 282).

A NATION OF SITTERS

By what they call the ontological proof, the medieval schoolmen reasoned that a thing had to be because of the absolute need for it in the cosmic scheme. Thus the multitude of sitters in Egypt ontologically calls for the presence of a multitude of settees. The logic is flawless, for it turns out that the settee is the most indispensable, the most popular, and the most widely distributed article of household furniture in all the land of the Nile.

A dragoman named Mohammed, who operates a curb, after a manner of speaking, inasmuch as his business office in Cairo consists of sitting space on the edge of the sidewalk hard by the entrance to the Continental Hotel, took us out one afternoon to view the sights of the city. On the way to Saladin's Citadel, we passed a powerful-looking man sitting dreamily upon a wayside ledge of rock.

"Who is he? What is he doing there?" it was asked.

"My gentlemans," explained the dragoman, "the man is holy, he does no work, but sits where you see."

"Perhaps," we observed, "he is too heavy for light work and too light for heavy work; but could he not obtain some soft job, such as assistant keeper of the canary bird seed in the Sultanic Gardens?"

"Excellency, the posts in the government service are not for all; besides, as I have said, the man is holy; he does no work; he sits where you see."

Further explanation the dragoman either would or could not vouchsafe.

This holy man who sat through life, what was he seeking to realize? What was he trying to settle? I wish we had some clue.

The man appeared to be a symbol of his race—of a people who have sat through the centuries. What has been in their minds? How have they lived? How have they come through?

They have seen the great empires of the Greeks and Romans fall to pieces; Nineveh and Tyre wiped out, Carthage destroyed, the Jews dispersed, Babylon become a geographical name.

These sitting people have been overrun by invaders through all the space of recorded time. The Shepherd Kings, Libyan, Ethiopian, Assyrian rulers, have had their way with them. Greeks, Romans, Arabs, French, Turks, straight through to the British occupation, have tried their conquering hand on Egypt.

What has been the result? The Egyptian sits through the storm. He later bobs up as much an Egyptian as he ever was, and occupying the favored position of being able to pass post-mortem estimates upon his late conquerors.

The enduring quality of the man who sits! The typical, the symbolic, ancient stone figures are those of huge sitting men—the Colossi of Memnon, the giant figures in front of the rock-hewn temple of Abu-Simbel—there they have sat, with hands upon their knees, staring calmly and, it seems, with a faint trace of amusement into the void (see page 286).

There they sit, "smiling at grief," smiling at decay, inscrutable, time-defying sitters, with whom a thousand years are as one day and one day as a thousand years—sitting figures over whom the centuries pass and leave no mark.

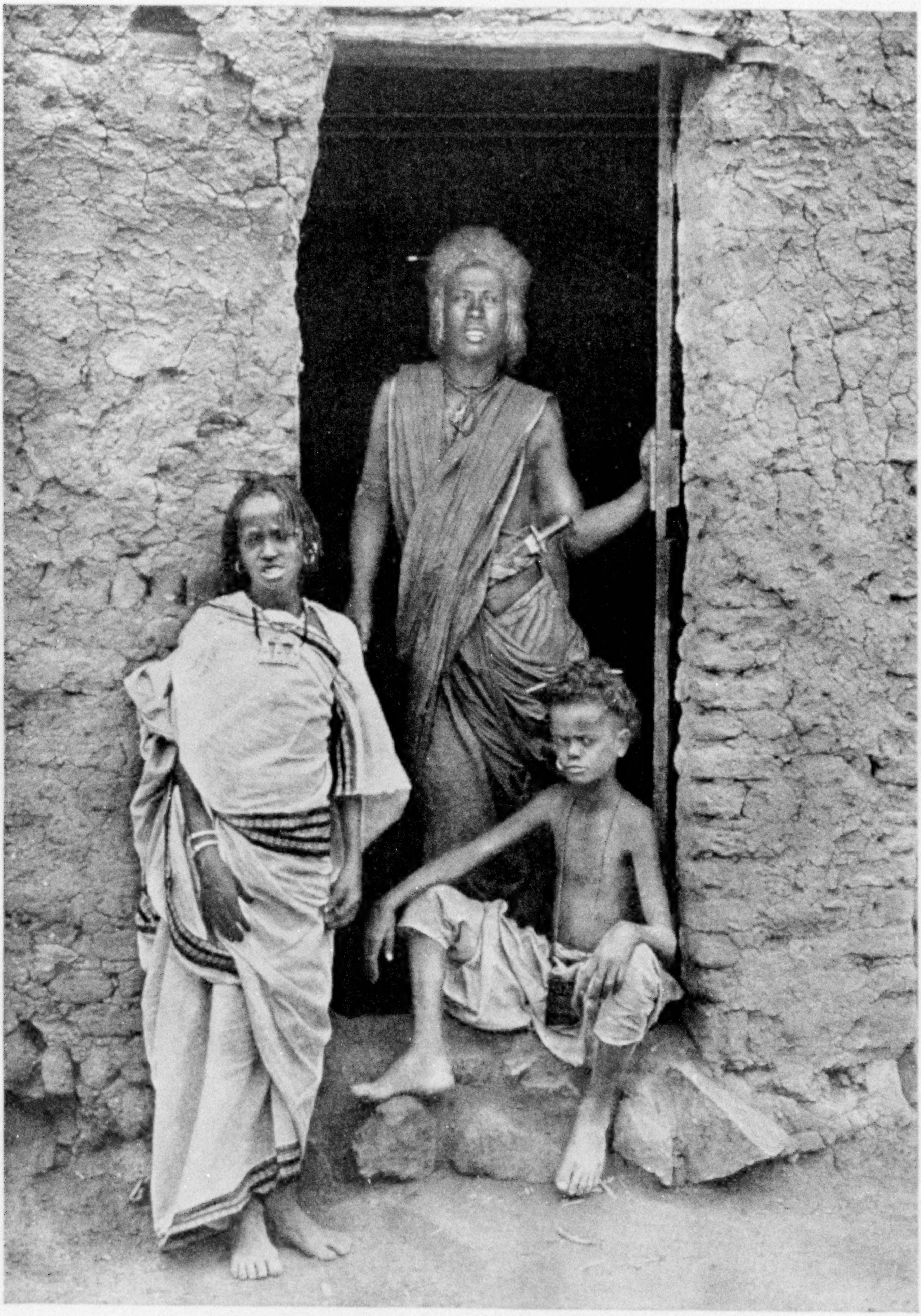
It is safe to wager that these figures have a fairish longevity ahead of them and will be sitting unchanged when our chaste Dianas, balancing on one foot from some ambitious eminence, shall have toppled out of plumb.

IN A WORLD OF CHANGE THE NILE PEASANT CHANGES NOT

And so it is on the human side. In a universe of flux and change, one of the unchanging things is the human laborer in the valley of the Nile.

Here is a people that for five thousand years has never lost its homogeneity. Here is the undigested human atom—the half-naked peasant, with his ox-drawn wooden plow, his primitive threshing floor, sowing seed, lifting water, sweating in the sun, attacking the soil with the invincible industry of an insect.

It is hard for the traveler who follows the beaten paths to get away from the idea that Egypt is an outworn country, a land of dead hopes, a land of memories rather than a land with a future. About the



Photograph by A. W. Cutler

A NUBIAN TRIO

These Bisharins, one of the native races of Nubia, are slender, remarkably well featured, and lithe and delicate of limb. They have a luxuriant growth of hair, in which it is fashionable for men and boys to stick a wooden skewer. Women plaster their hair with a concoction of castor oil and mud. In dynastic times in Egypt, the crown prince was known as the Prince of Nubia, just as the heir apparent to the British throne is designated "Prince of Wales." To-day Nubia has no definite limits and is little more than a geographical expression. Vaguely, the term is applied to the region lying between Aswan and the confluence of the White and the Blue Nile (see map, page 272).

© Elmendorf from Galloway

CHILDREN OF THE SUDAN

To the south of Egypt stretch the vast reaches of the Sudan and some of its black millions have seeped up into the land of the Pharaohs. Among these people children are often married at 12 or 14 years of age.

first thing a tourist does on arrival in Cairo is to drive out to Giza, on the edge of the Libyan Desert, to see the Pyramids and the Sphinx. Is there a scene of greater desolation in all the world? The Pyramids themselves are colossal sepulchers. As far as the eye can reach unfolds a panorama of dead cities, one necropolis after another stretching away endlessly to the south.

On the edge of the sun-scorched sands lie all that is left of myriads of men who have loved, hated, toiled, hungered, feasted, and who, having ended their life wrestle on this planet, were brought here.

The despotic King Cheops reared here the most massive tomb that the world has yet seen, a stupendous safe-deposit vault for the preservation of his own precious corpse. The tomb having been rifled of its contents, where is the dust of Cheops to-day? Who knows? Who cares? The weak, the mighty, the obscure, the illustrious, all find their common level in the dust.

> The worldly hope men set their hearts upon
> Turns ashes, or it prospers; and anon,
> Like snow upon the desert's dusty face,
> Lighting a little hour or two, is gone.

Malea'ash seems writ large upon these relics of outworn splendor and despotic power. Shifting sands carried heedlessly hither and thither by the desert winds; human dust at one's feet; the very atmosphere hazy with dust; dust everywhere—endless, tantalizing dust.

The desert crowds to the very gate of the thousand-mile garden strip. In a five-minute walk one passes from sun-drenched barren sands to shimmering water, waving palm trees, growths of maize and sugar cane as rank and luxuriant as the vegetation of a tropical jungle. On the human side, fullness of life everywhere; myriads of strong, eager, half-naked toilers laboring in the sun. Moist, fecund, flowering Mother Earth steaming in the sunshine; death, dust, and the desert on either side.

Wonderful has been the place in human history of this narrow green strip of the earth's surface; wonderful it remains to-day—the Land of Egypt.

A NATURALIST WITH MacMILLAN IN THE ARCTIC[*]

By Walter N. Koelz, Ph. D.

Department of Zoölogy, University of Michigan; Staff of the United States Bureau of Fisheries

As the naturalist of the MacMillan Arctic Expedition of 1925, under the auspices of the National Geographic Society, it was my privilege to explore perhaps the most interesting portion of the Arctic Regions—the western coast of the earth's largest island, which extends for 1,500 miles from north to south, with an average width of 600 miles. Yet in all Greenland's area of more than 800,000 square miles there is little land!

The interior is occupied by a dome of ice the edges of which in many cases come to the ocean, and even where the land fringe is widest there is only a strip of some 100 miles between the sea and the eternal ice-cap.[†]

A great ice mass juts out from the island into Melville Bay, and, reinforced by the drift pack which hugs the shore, separates the west coast into two grand areas. To the north live the Smith Sound Eskimos; to the south are the Danish settlements.

For more years than history records, the northern Eskimos have been out of contact with their relatives to the south, where the European influence has wrought many changes.

HUNDREDS OF SPECIES OF PLANTS FOUND IN GREENLAND

In the face of the scenic grandeur of the west coast, one forgets that Eric the Red some thousand years ago anticipated the advertising methods of modern real estate when he named the country *Greenland*.

But Eric's name is not merely euphonious, for many green things grow here. The flora of southwest Greenland is very rich and the herbage is often luxuriant. Some 400 species of plants, belonging to about 50 families, are found on the island.

In sheltered valleys plants are little stunted, and the willows, birches, and alders may grow waist-high or taller; but where conditions are not tempered, one and all must hug the earth (see Color Plate III).

In the milder regions representatives of the Orchids, Violets, Lilies, Peas, Parsleys, and the Conifers flourish, but some hundred miles above the Arctic Circle these disappear, except that on Disko Island, 200 miles above the Circle, small colonies of southern flowers are found, and the natives have a legend that the island was once part of a witch's domain in the south. Thieves towed the island to its present location before the owner overtook them!

Berries are gathered for food in Greenland as in Labrador, and all shrubby growth is collected for fuel (see Color Plate XIV), while turf is cut to wall the houses or to serve as roofing.

The natives have no interest in "greens" to relieve their diet of meat, and the succulent dandelions which grow in many valleys are not gathered, but the stalk of a wild parsnip is eaten and even made into a sort of wine.

THE ESKIMO LOOKS TO THE OCEAN FOR HIS LIVELIHOOD

Man would be hard pressed to support himself in the Far North if it were not for the mammals of the sea. In fact, to the ocean the Eskimo turns for food for himself and his dogs. From the Walrus he gets meat and tools of the chase, from the Seals and the Bear he gets meat and clothing, and from the Narwhal, or Sea

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[*] The natural-history specimens collected by Dr. Koelz in the Far North include 1,000 fishes of some 25 species; 800 birds, representing some 70 species; 250 collections of plants, comprising 1,000 specimens, and a miscellaneous collection of invertebrates, including insects, mollusks, and echinoderms. The plants and invertebrates have been presented to the U. S. National Museum, the fishes to the Bureau of Fisheries collection in the museum of the University of Michigan, and the birds to the American Museum of Natural History and to the Museum of Comparative Zoölogy.—Editor.

[†] See Map of the Arctic Regions, in six colors, issued as a supplement with the National Geographic Magazine for November, 1925. Additional copies, paper, 50c; map linen, $1.00.

Unicorn, meat and the sinew which serves the women as thread.

Years ago the Narwhal's curious twisted tooth, which may extend eight feet or more ahead of him, was used as a harpoon handle, but now the white man's wood is used instead.

Whale meat is much esteemed by the Eskimo, and even ancient carcasses that drift ashore are explored for possible steaks. Sometimes the putrid meat is eaten with fatal consequences to the finder and his family.

To support these great creatures and its myriads of birds, the sea must teem with food, and life in truth abounds. Fishes north of Etah become quite rare, in the waters where ice may long be present, but at Etah the Trout run into the streams, and Sculpins and even the sluggish Shark are found.

Among the rocks at low tide a queer, slippery little black fish, that suggests the Bullhead of our boyhood, is often seen. In place of a second pair of abdominal fins, this creature has a sucking disk and by its aid clings to the rocks against the current of the tide.

Tiny Jellyfishes cloud the water and among them the winged Snails fan their way. On the bottom, near shore, Snails and the Shrimps, which sustained Greely's party on Cape Sabine in the last days of their starvation, occur, and in deeper water there are hosts of Starfishes, Clams, and Worms.

The Clams must in places veritably strew the ocean floor, for on them feed the Walrus herds. The natives also relish Clams, and when they catch a Walrus they eat what they find in its stomach.

A FISH WITH A SHIFTY EYE

South of Melville Bay, Flounders swarm in shallow water where the bottom is sandy. As everyone knows, they are flat fishes which swim on their side. When the Flounder lies like a pancake in the sand both eyes are on the top side.*

Flounders are sold for food in America, but no one prizes them as such in Greenland. The larger ones are often caught and dried for dog food, or the dogs catch them when the tide goes out and leaves exposed those that have ventured too near the shore.

On the banks offshore abounds the Flounder's gigantic cousin, the Halibut, for which epicures demand that the northern seas be combed. From distant Norway come the fishermen to seek it on these shores, and outside the lines of Danish sovereignty they ply their trade. The Danes also fish for the Halibut and preserve in a cannery at Holstensborg the major part of their catch (see Color Plate IV).

The Greenland fisherman uses no fly and rod for Trout-fishing. With a hook on the end of a stick he snatches his catch from the rocky pool or he gropes with his arm in the hiding places of the bank.

The Capelin and the Shark are caught for dog feed, and in winter the Danes allot their cows a liberal ration of the former, as hay is scarce. Sharks are cut into strips, and many a hut is decorated with the drying slabs (see Color Plate V).

SEA BIRDS ARE LEGION

The birds are principally of the sea and their number is legion, but not often are many species to be seen in one place. Anything with feathers has potential food value to the Eskimos, and the naturalist may with profit watch the native kitchen: Gulls, Hawks, Loons, and even the disreputable Raven may thus be salvaged from the cooking pot.

Though their guns would excite the envy of any collector of early firearms and their proficiency in handling them is often not remarkable, the natives nevertheless make some surprising captures, chiefly by virtue of a small square of white cloth which they hang over the bow of their sealskin boat, or kayak.

Crouching behind the screen, the hunter drifts down upon the resting bird, which, of course, assumes a piece of ice is coming his way, and at a convenient distance hurls the bird spear. The results are more satisfactory than those of us who tried for the same game with rifles would like to admit, for the call of hunger has from time immemorial strengthened the arm and made sure the eye of the hunter, who must win or die.

The Eiders are of all Arctic birds the most appreciated, and so severely has the

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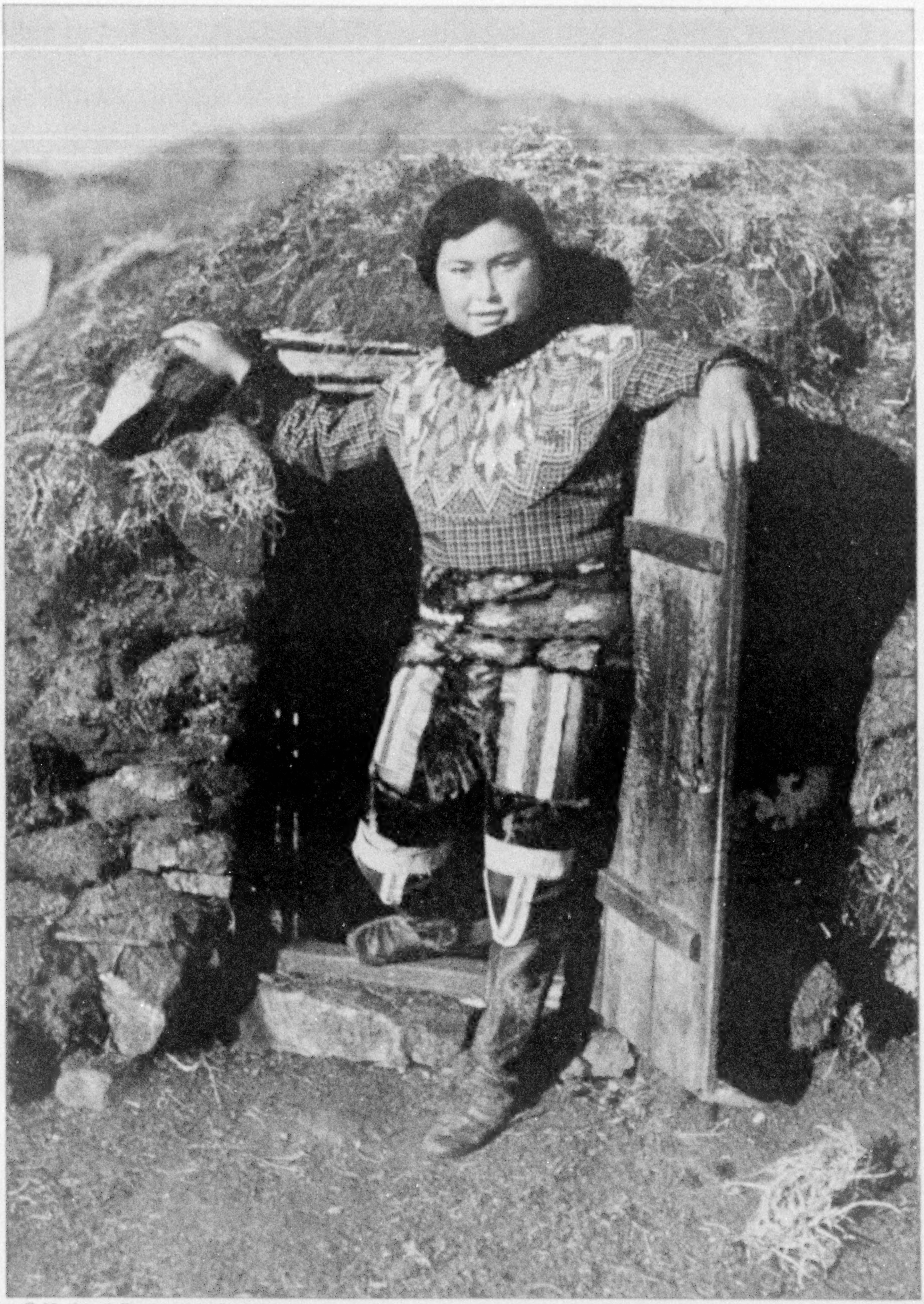
* See "The Book of Fishes," published by the National Geographic Society. Price, $4.



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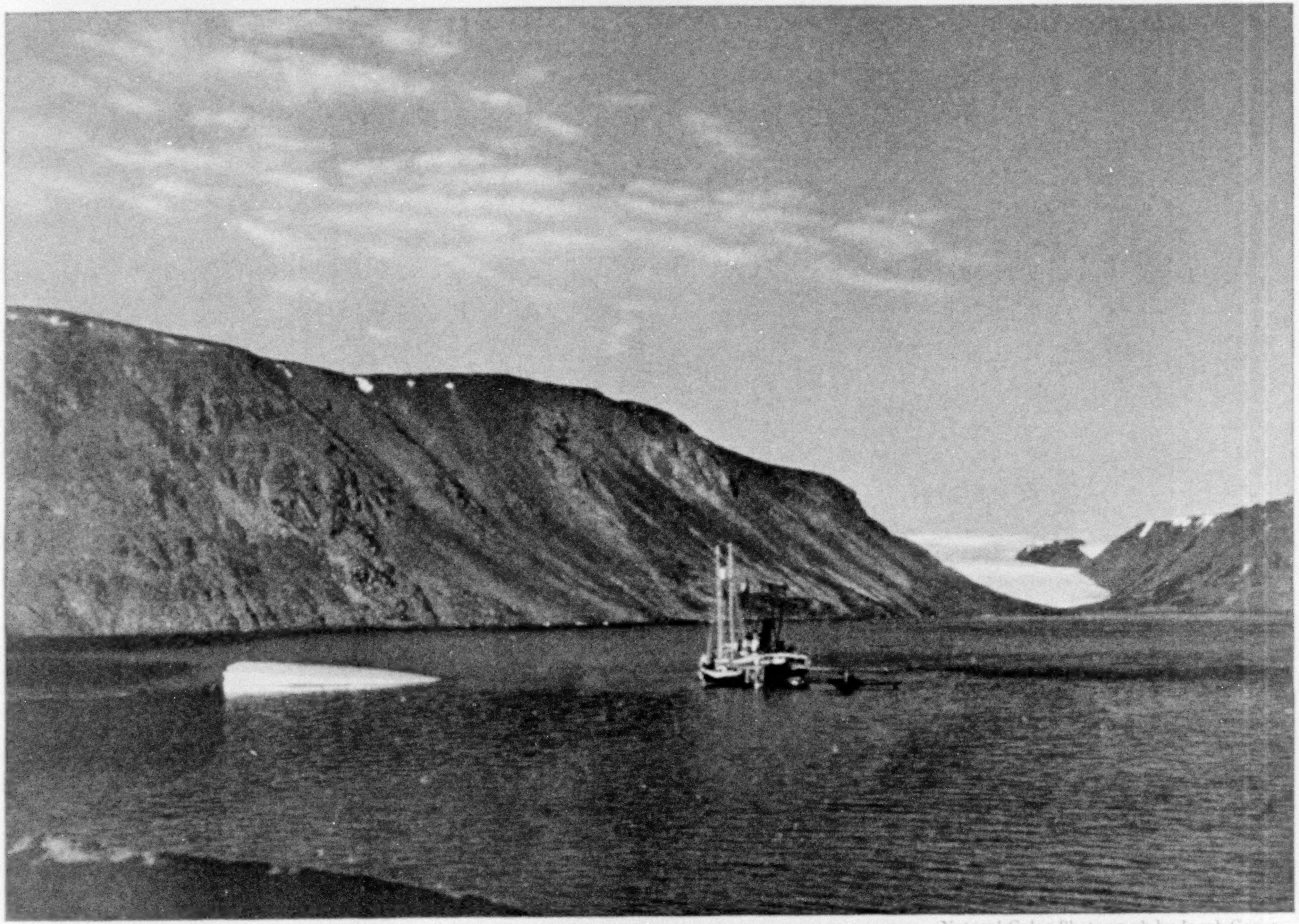
AN IRIDESCENT BELLE OF GREENLAND

Like a tropical butterfly emerging from its somber shell, this Holstensborg beauty stands at the door of her igloo, built of stones and sod. The National Geographic Society's staff correspondent, Maynard Owen Williams, and staff photographer, Jacob Gayer, who accompanied the MacMillan Arctic Expedition of 1925, brought home from the Far North the first natural-color photographs ever successfully made in Arctic regions. This and the 21 succeeding illustrations are from the collection of more than 100 Arctic autochromes now in the Society's archives.



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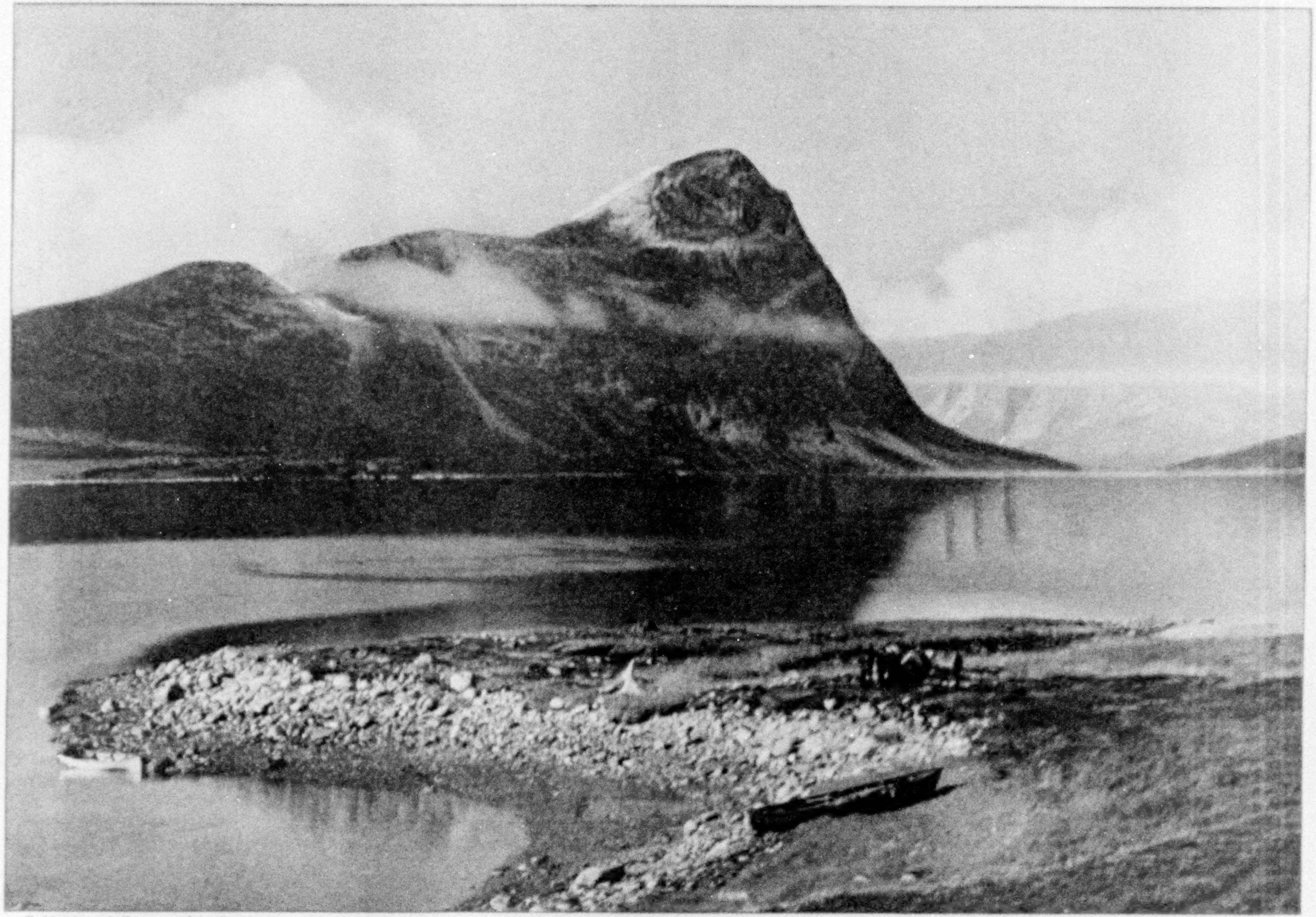
Natural-Color Photograph by Jacob Gayer

THE QUIET WATERS OF ETAH HARBOR RIVAL THE BLUE OF MIDSUMMER ARCTIC SKIES

The *Bowdoin* and the *Peary* of the MacMillan Arctic Expedition are anchored in the shadow of lichen-covered cliffs (see also Color Plate X), with John's Glacier in the distance. One of the United States Navy's four amphibian airplanes, which accompanied the Expedition, rides at the stern of the *Peary*, the planes' mother ship.



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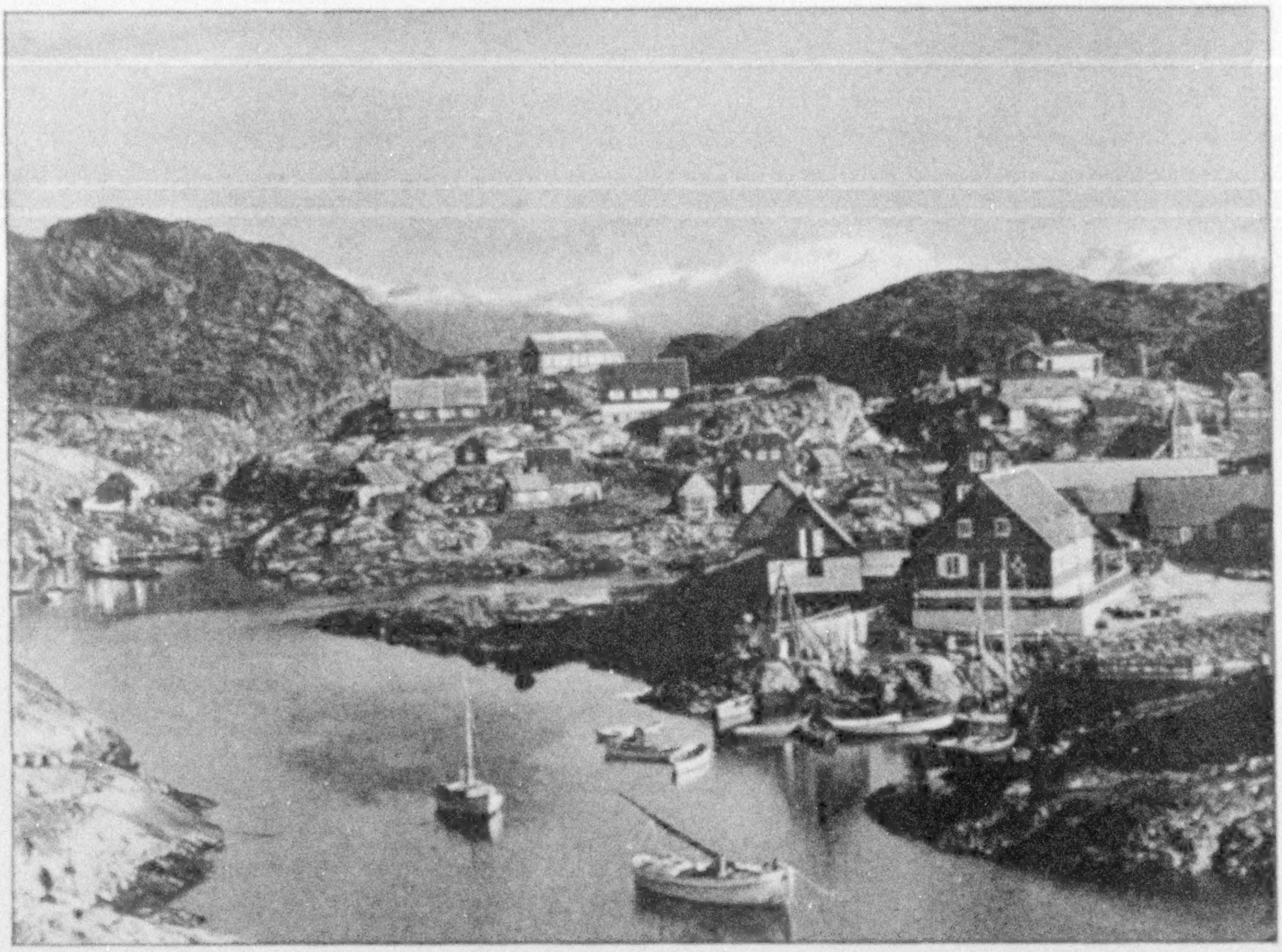
A SAPPHIRE CLIFF LIFTS ITS HEAD FROM A COBALT SEA

On the banks of the fresh-water trout stream (at the left) a group of Greenlanders, who have come down to Godthaab Fiord for summer fishing, is encamped. The dark green patch in the right foreground is an Arctic "forest," the trees (chiefly willows) being from two to three inches high.



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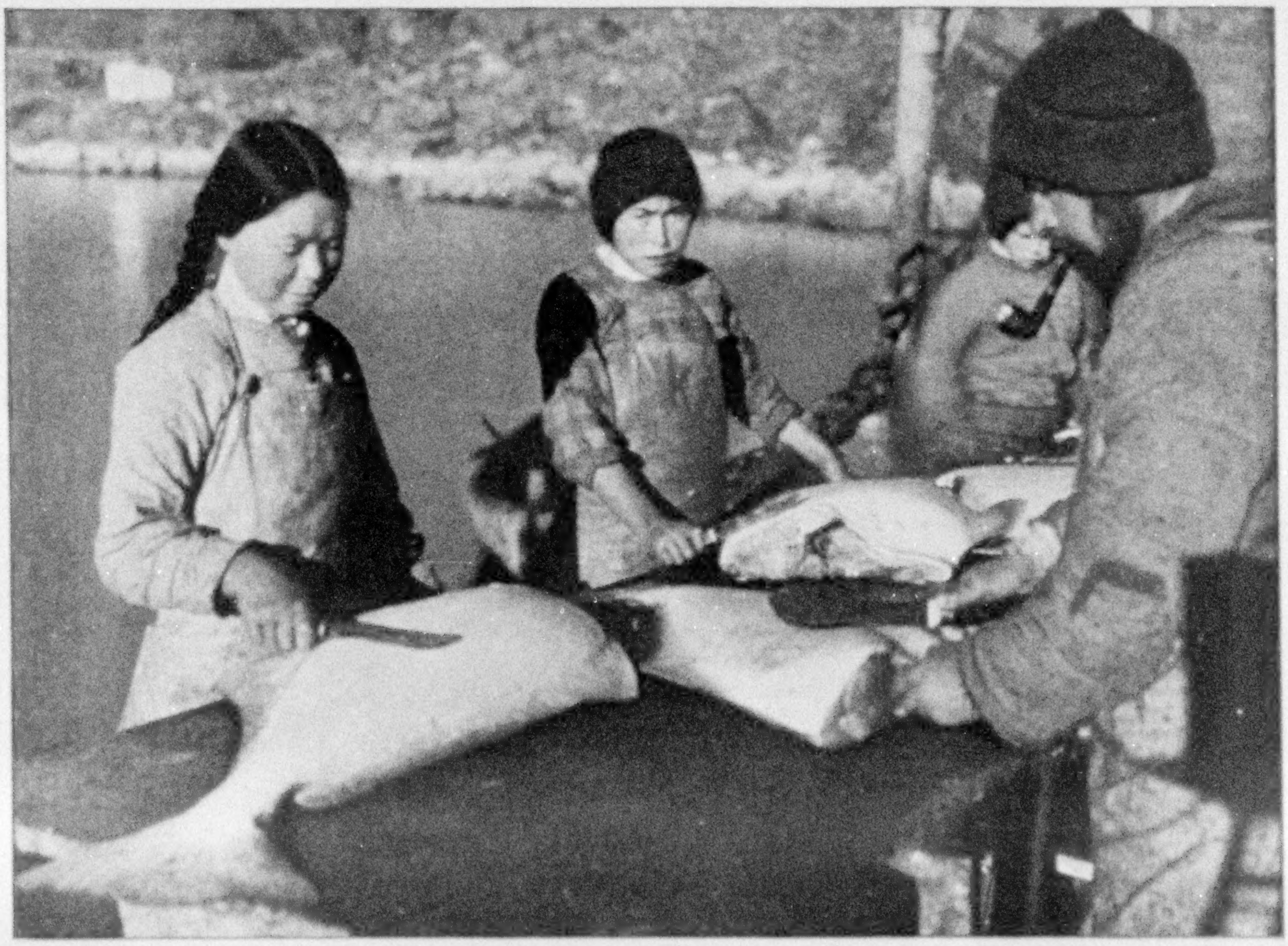
SUKKERTOPPEN, THE VENICE OF GREENLAND

Snowclad mountains provide a lovely background for the vari-hued roofs of this flourishing Arctic village, built upon rocky islets. Here the members of the MacMillan Expedition were hospitably received by the Danish authorities.



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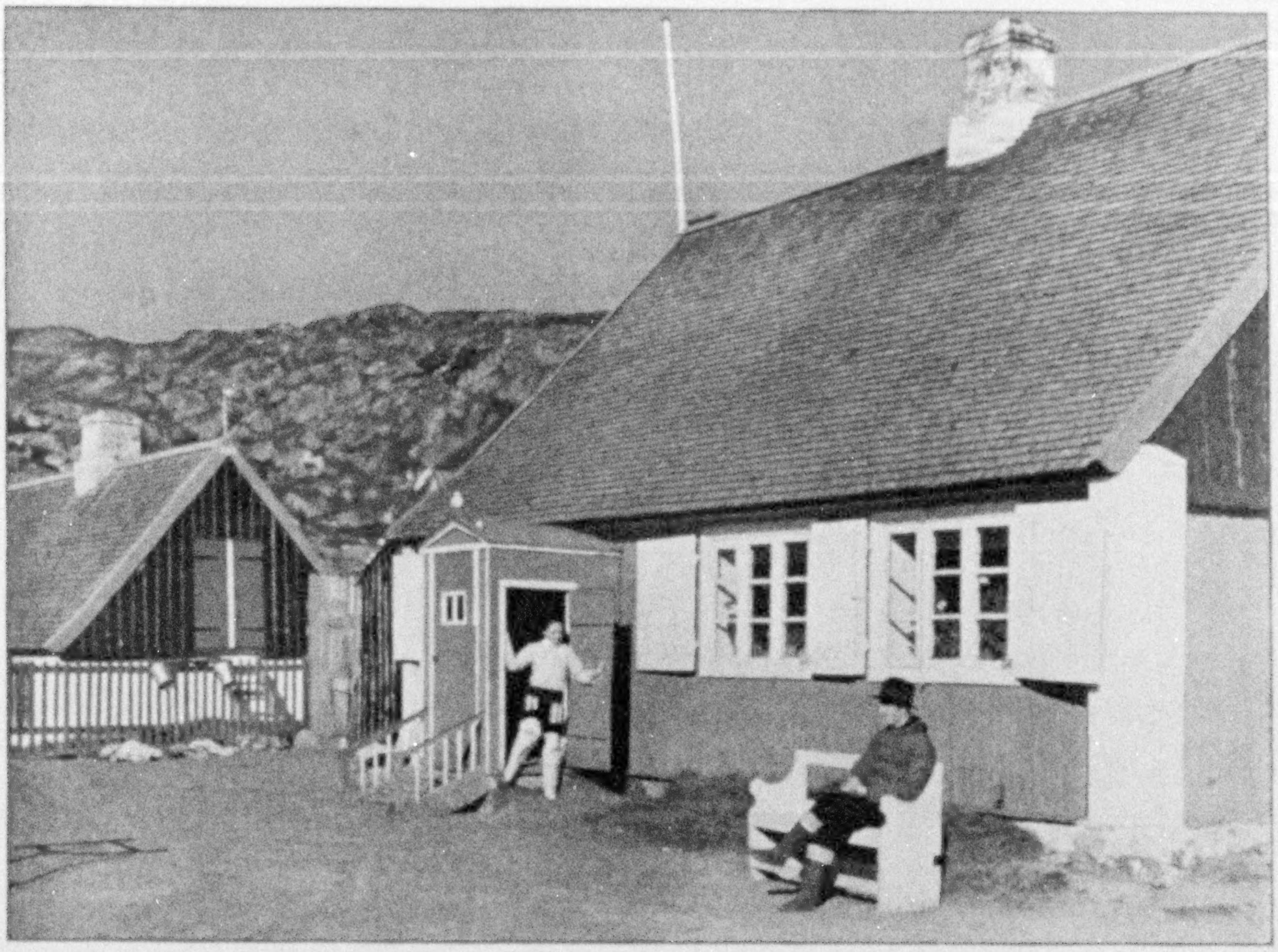
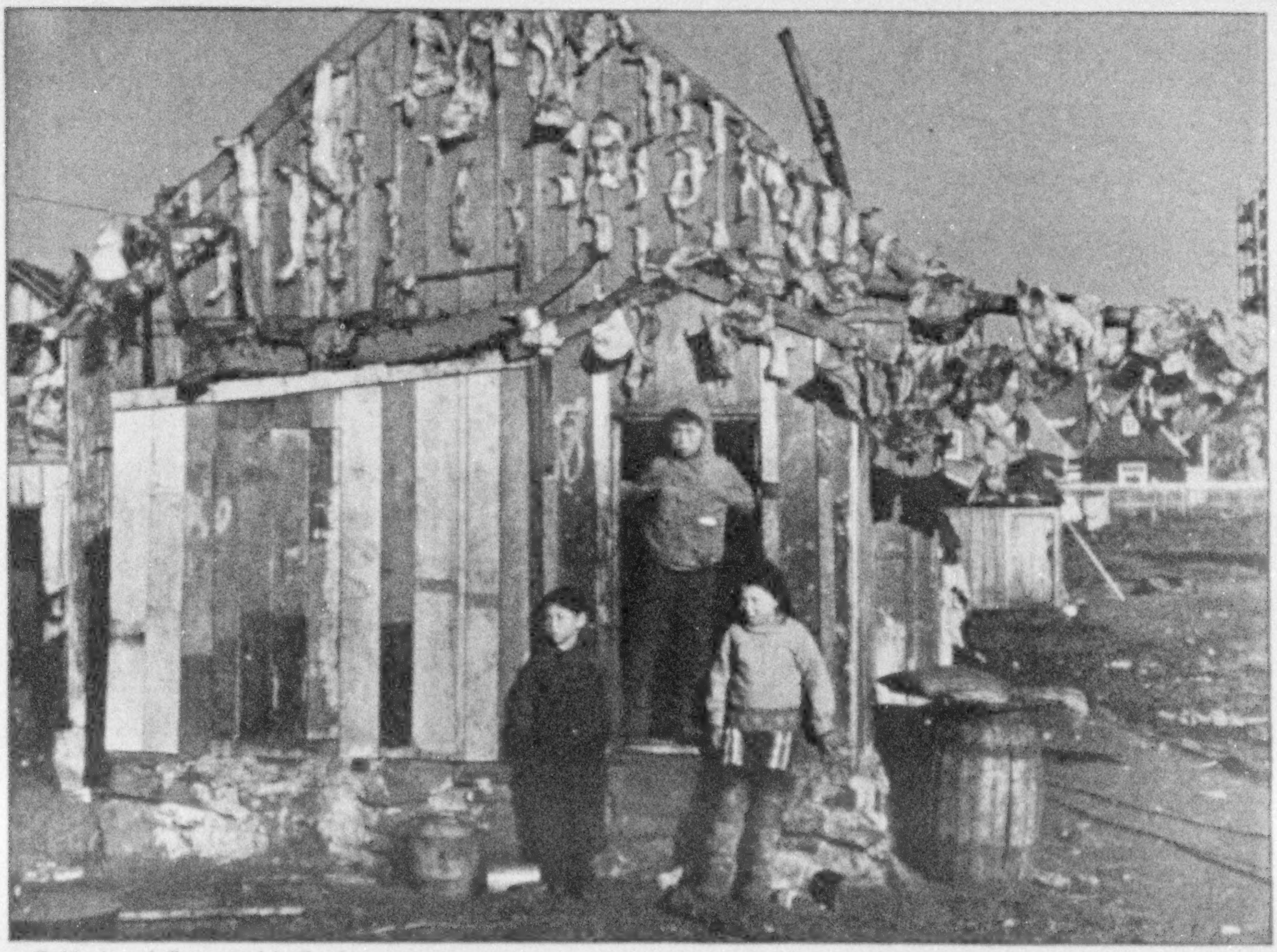
PREPARING HALIBUT FOR CANNING

Holstensborg is the most interesting settlement in the Northern Inspectorate of Greenland, and was the home port of the American halibut fishermen for many years. It boasts one of the few modern industries of Greenland, a canning factory.



THE ARCTIC DWELLER DELIGHTS IN VIVID COLORS

As if to counteract the depressing effects of rain, wind, fog and snow, the South Greenlanders paint their houses in bright blues, browns and greens. The lichens on the shingled roof of the house to the left give the effect of paint.



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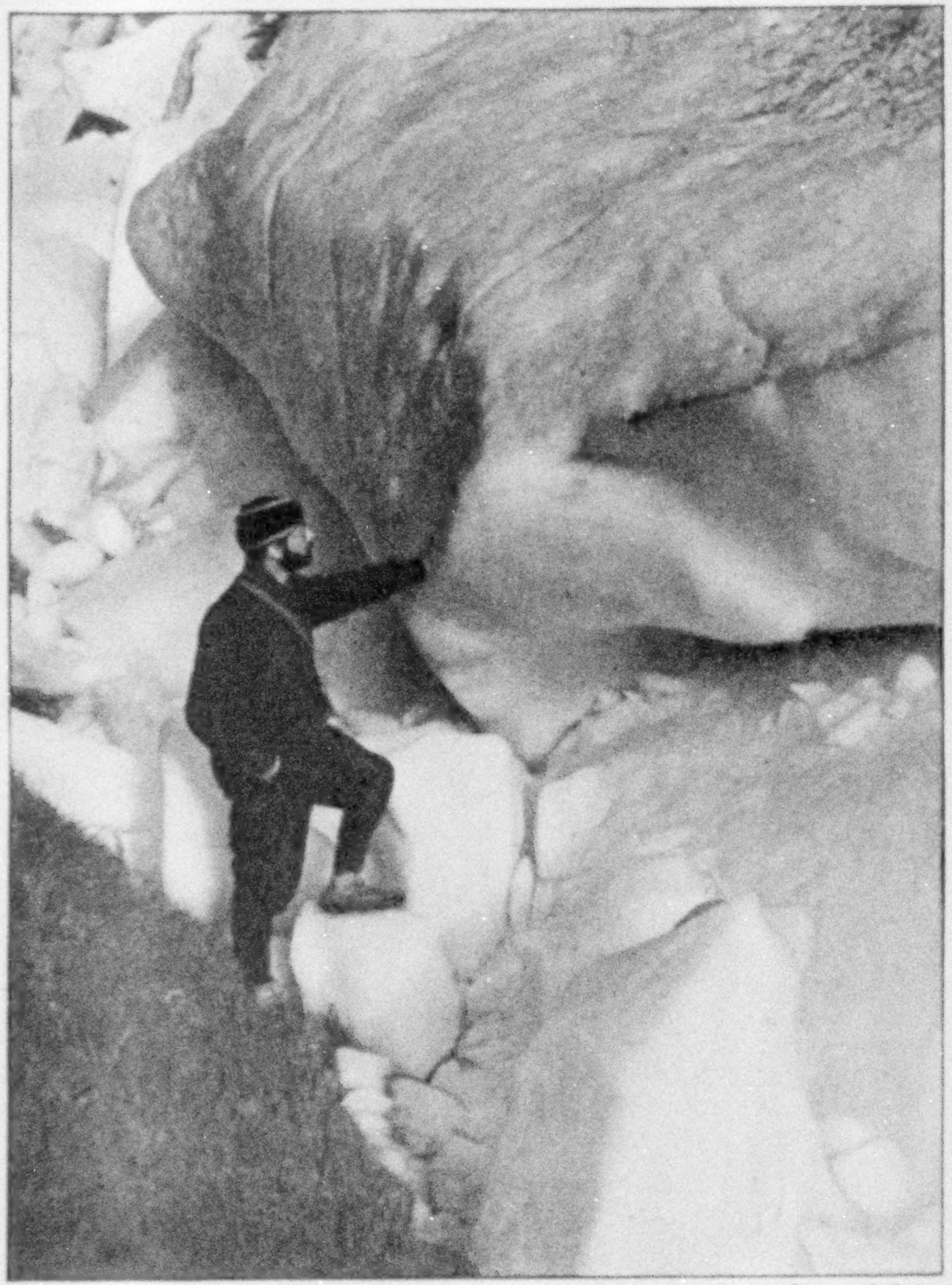
THE FAMILY'S WINTER SUPPLY OF MEAT NAILED TO THE HOUSE

These young Greenlanders of Holstensborg do not fear the wolf at the door during the long months of darkness, for dried fish and Arctic hare in abundance have been provided. Note the family sled, with its bright blue runners, stored on the roof of the shed.



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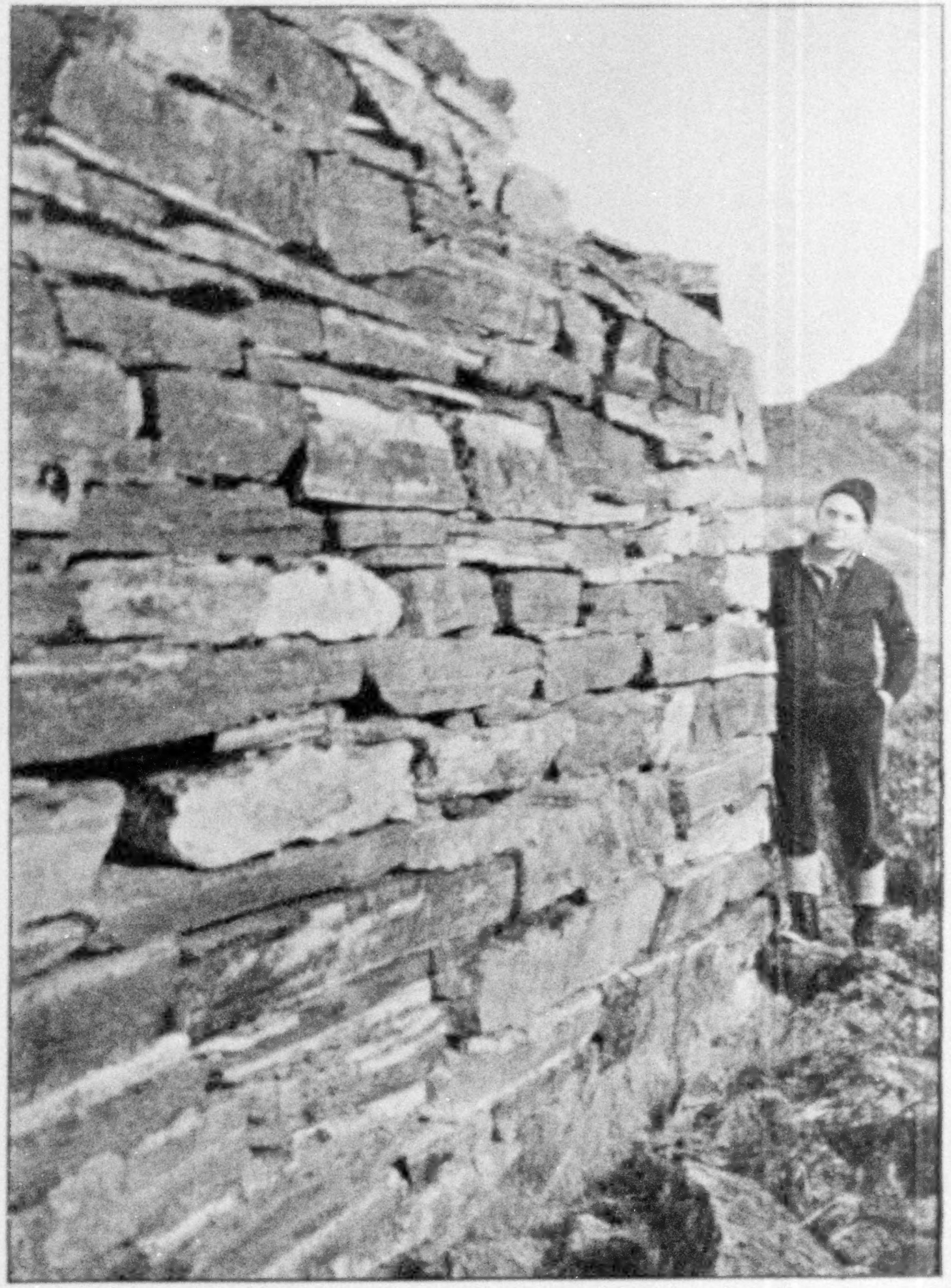
STUDYING "RED SNOW"

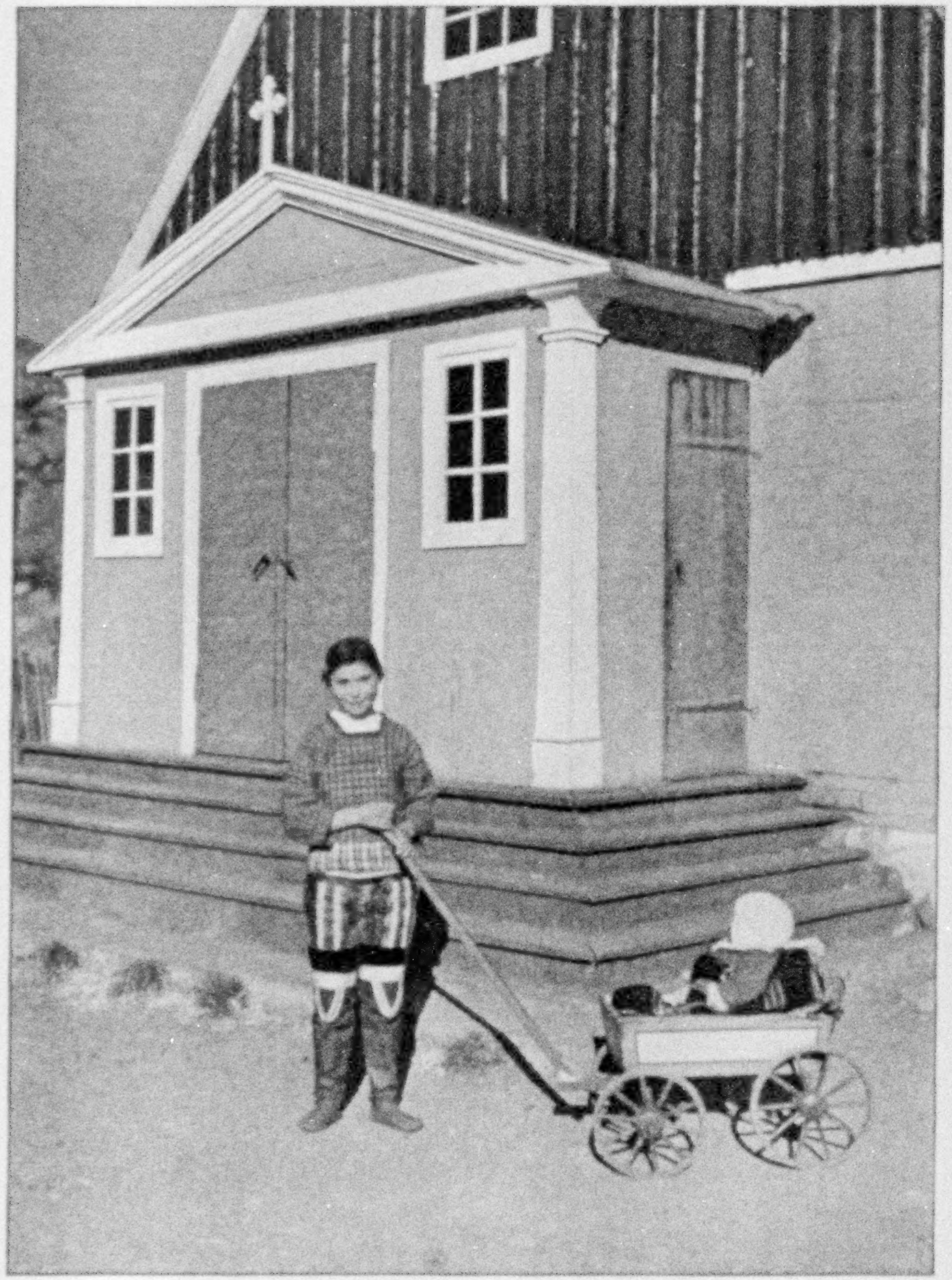
Minute algae (*Sphærella nivalis*), found in the melting snow, give it a striking reddish tinge. Note the luxuriant grass flourishing at the very edge of the glacier (see also Color Plate X).

Natural-Color Photographs by Jacob Gayer



A RELIC LEFT BY MEDIEVAL NORSEMEN

These lichen-covered ruins, at the head of Godthaab Fiord, 60 miles from the sea, stand in the center of an elevated plain 100 feet above the water's edge. Their complete story is one of the mysteries of Greenland.



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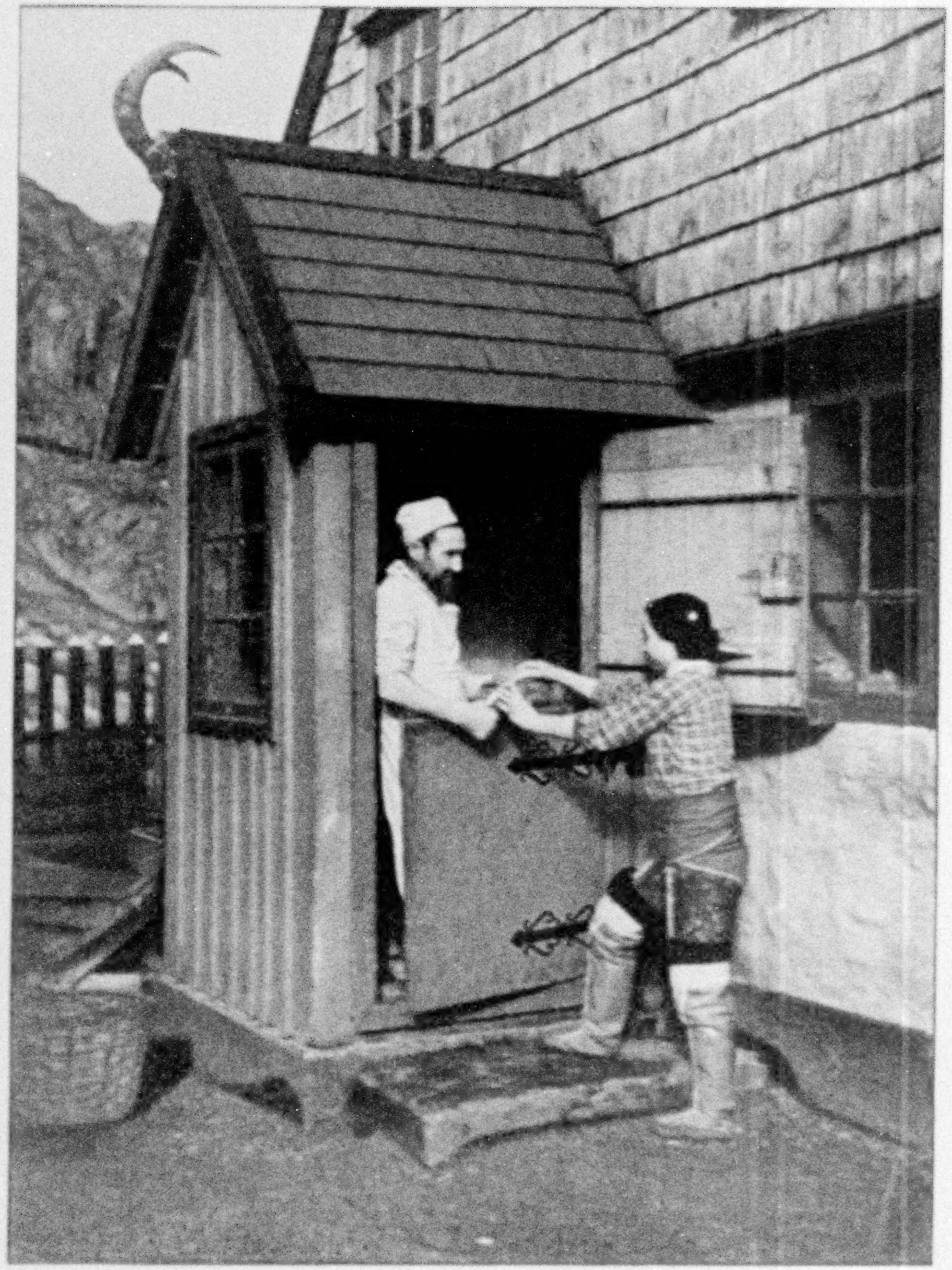
BABY RIDES TO CHURCH

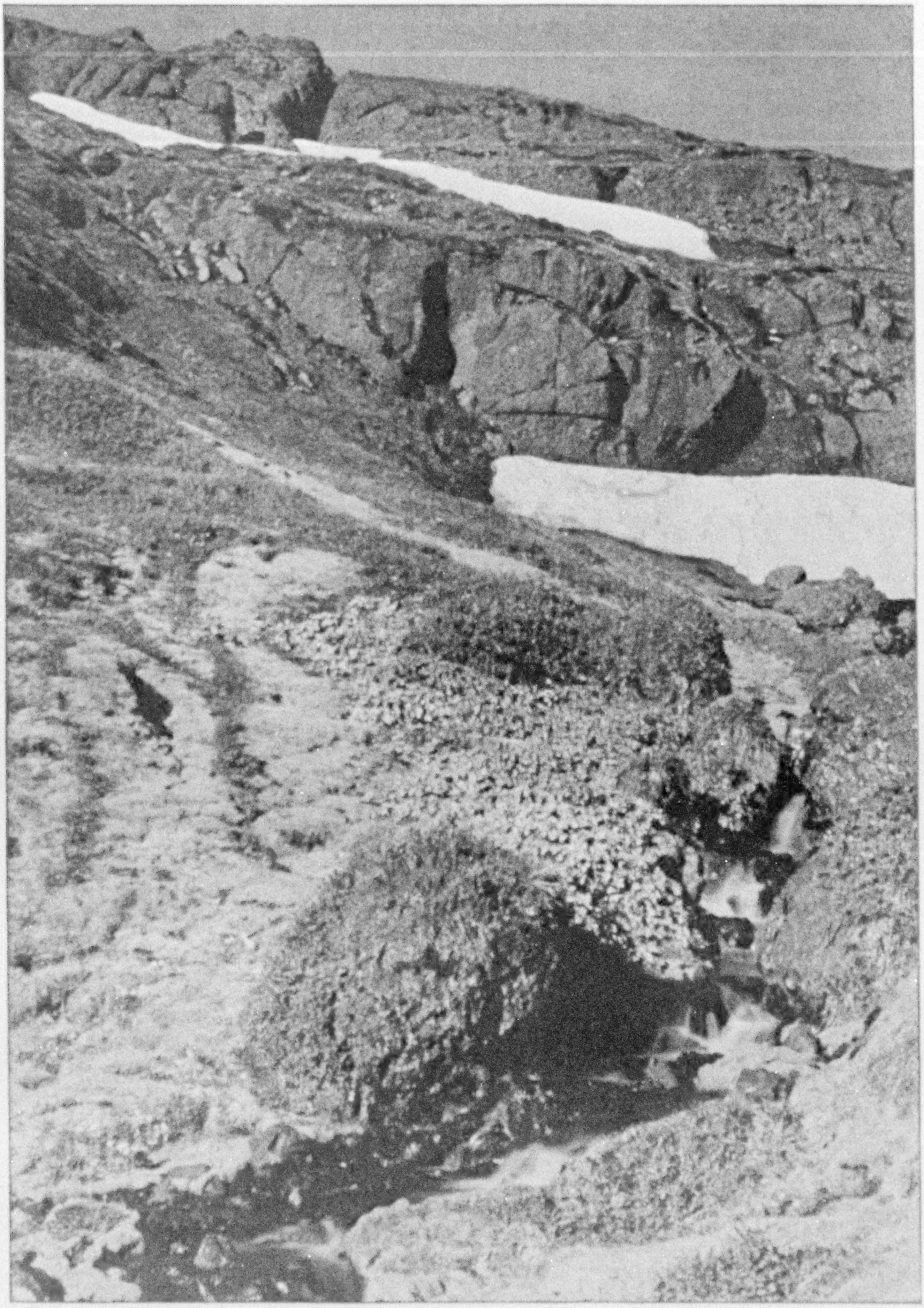
The gayly-colored edifice in the background is one of the oldest churches in Greenland. It dates from 1773 and is a source of pride to Holstensborg.



Natural-Color Photographs by Jacob Gayer

SHOPPING FOR BREAD IN SUKKERTOPPEN

Red sealskin boots, with lace and embroidery tops, and soft sealskin trousers are features of the characteristic costume of the bright-eyed native girls of this village.



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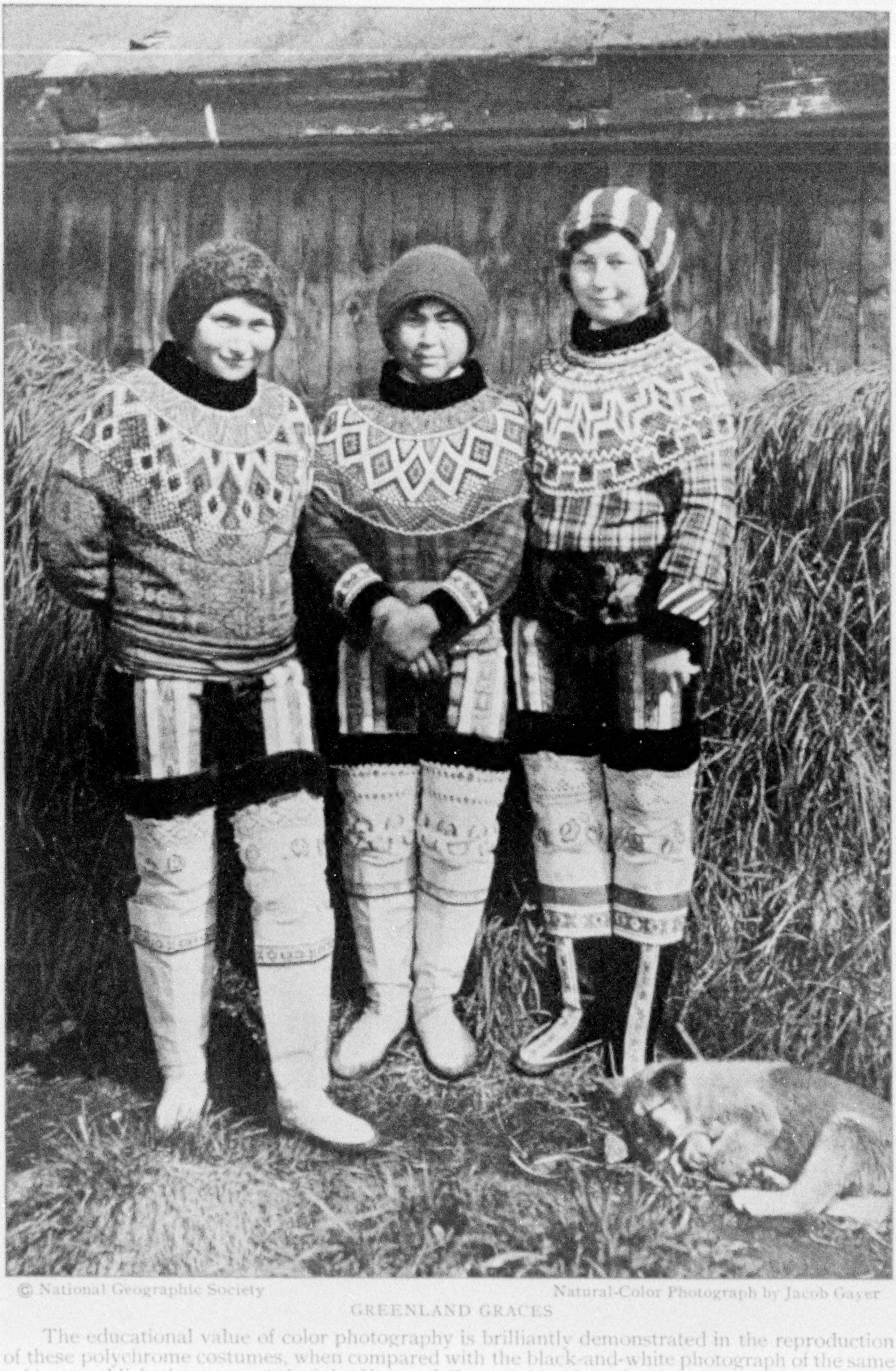
A COLORFUL GREENLAND GLEN

The vivid green of this hillside on Disko Island is emphasized by the white patches of snow which feed its babbling brook. Greenland has a large plant population—some 400 species, all of which are in flower at the same time.



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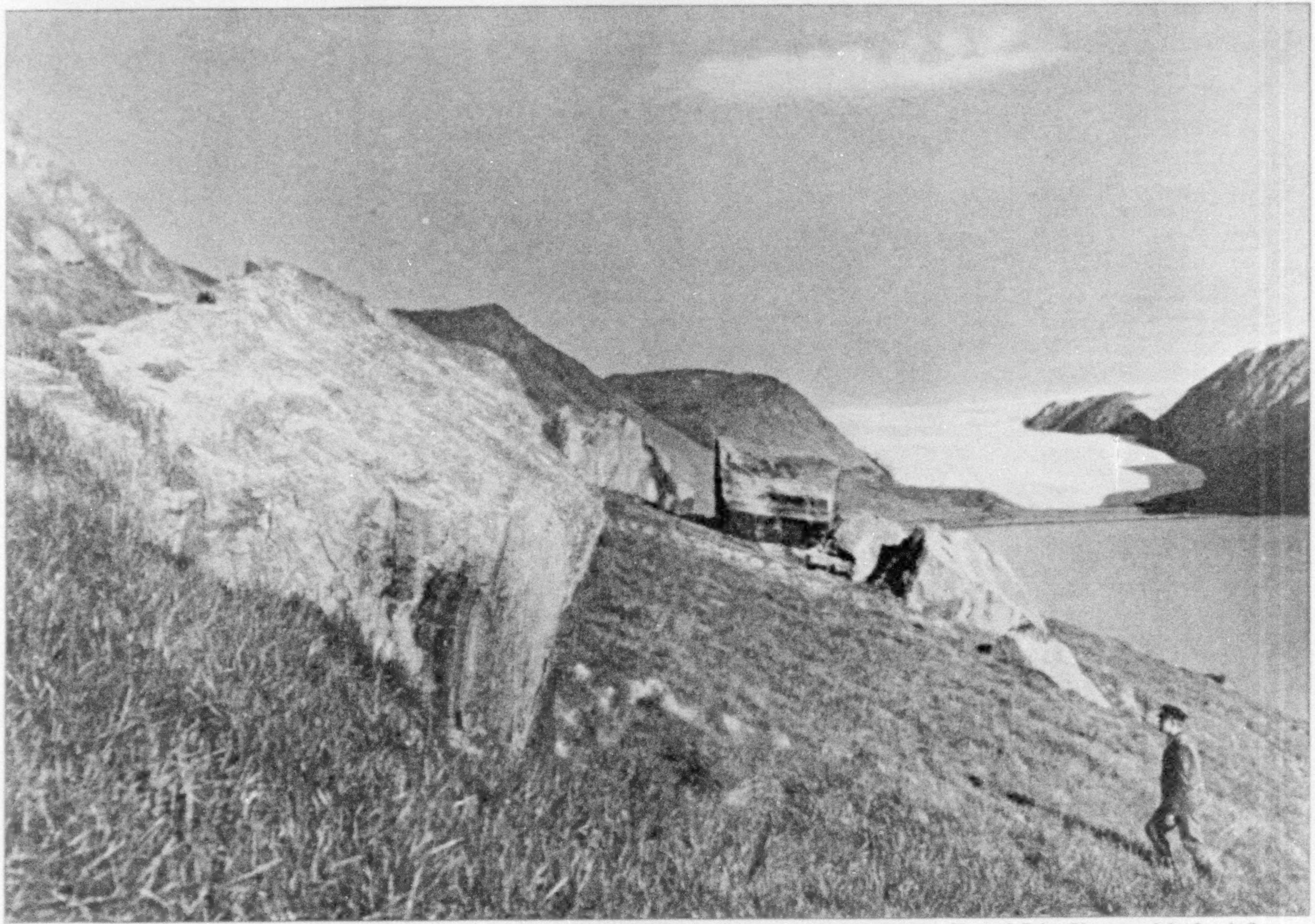
GREENLAND GRACES

The educational value of color photography is brilliantly demonstrated in the reproduction of these polychrome costumes, when compared with the black-and-white photograph of the same subjects published on page 483 of the National Geographic Magazine for November, 1925.



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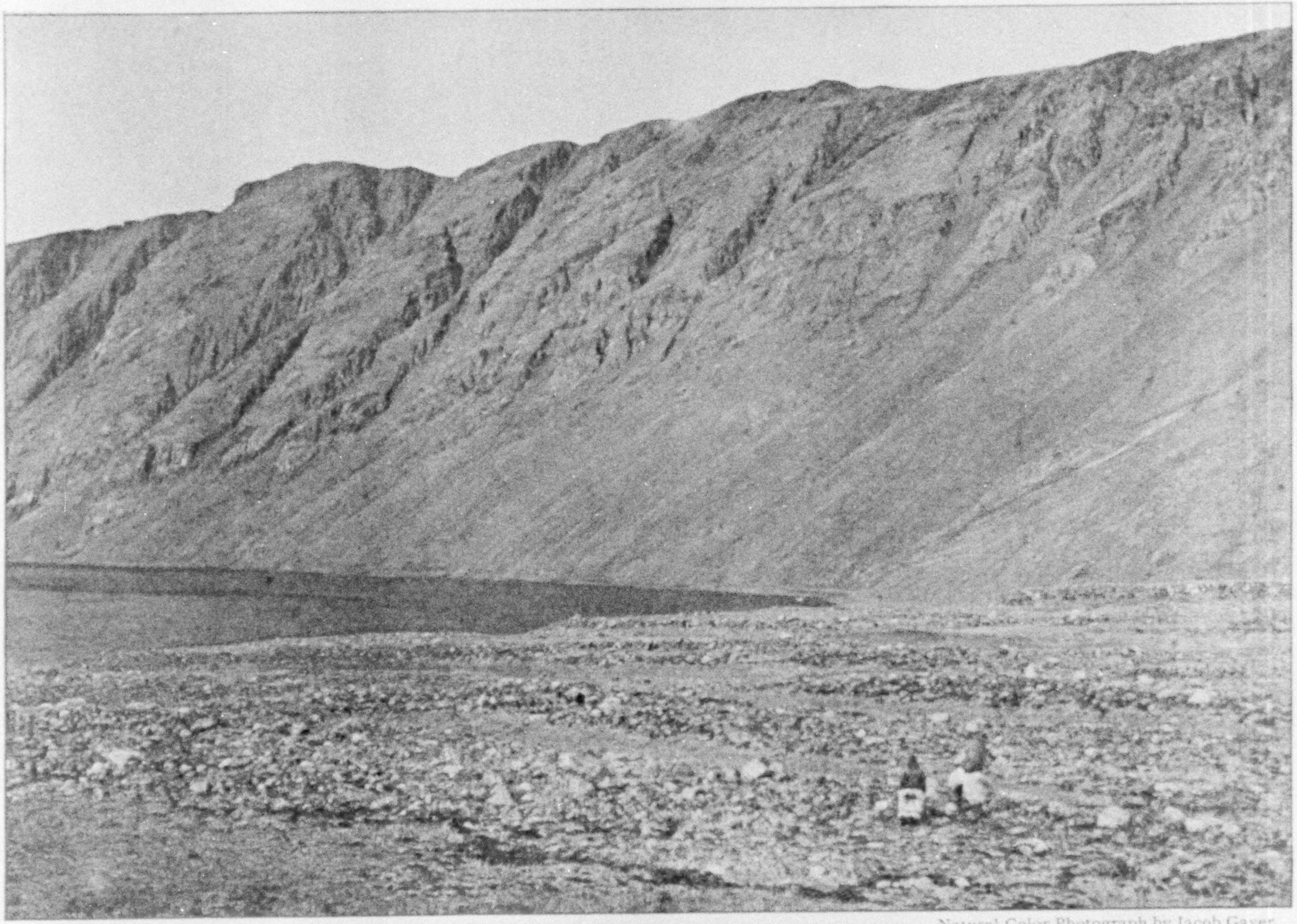
HILLSIDE BOWLDERS IN NORTH GREENLAND PAINTED WITH COLORS OF FLAME BY GROWING LICHENS



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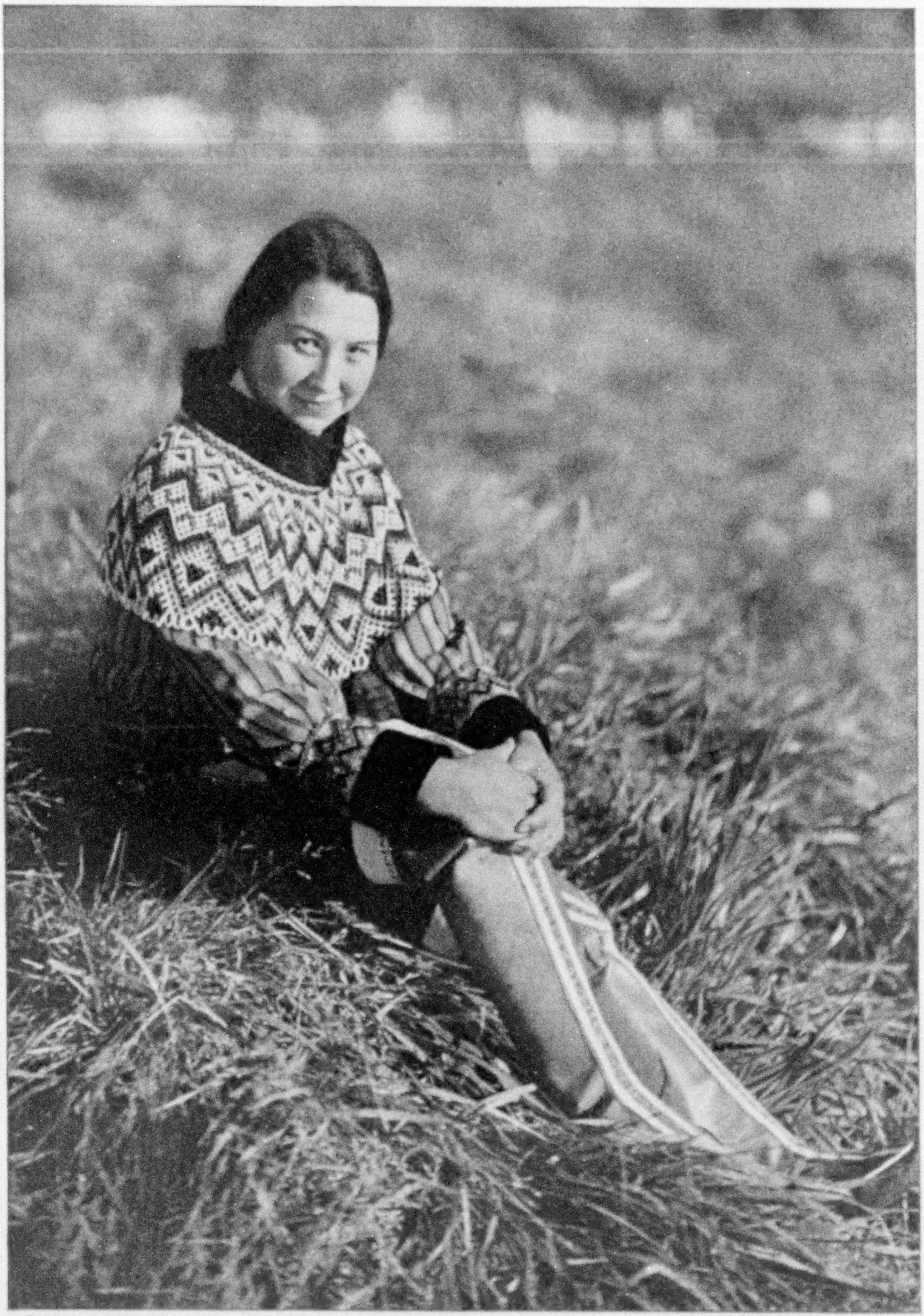
THE MIDNIGHT SUN BATHES THE CLIFFS OF AN ARCTIC FIORD IN A GLOW OF BRONZE AND PURPLE



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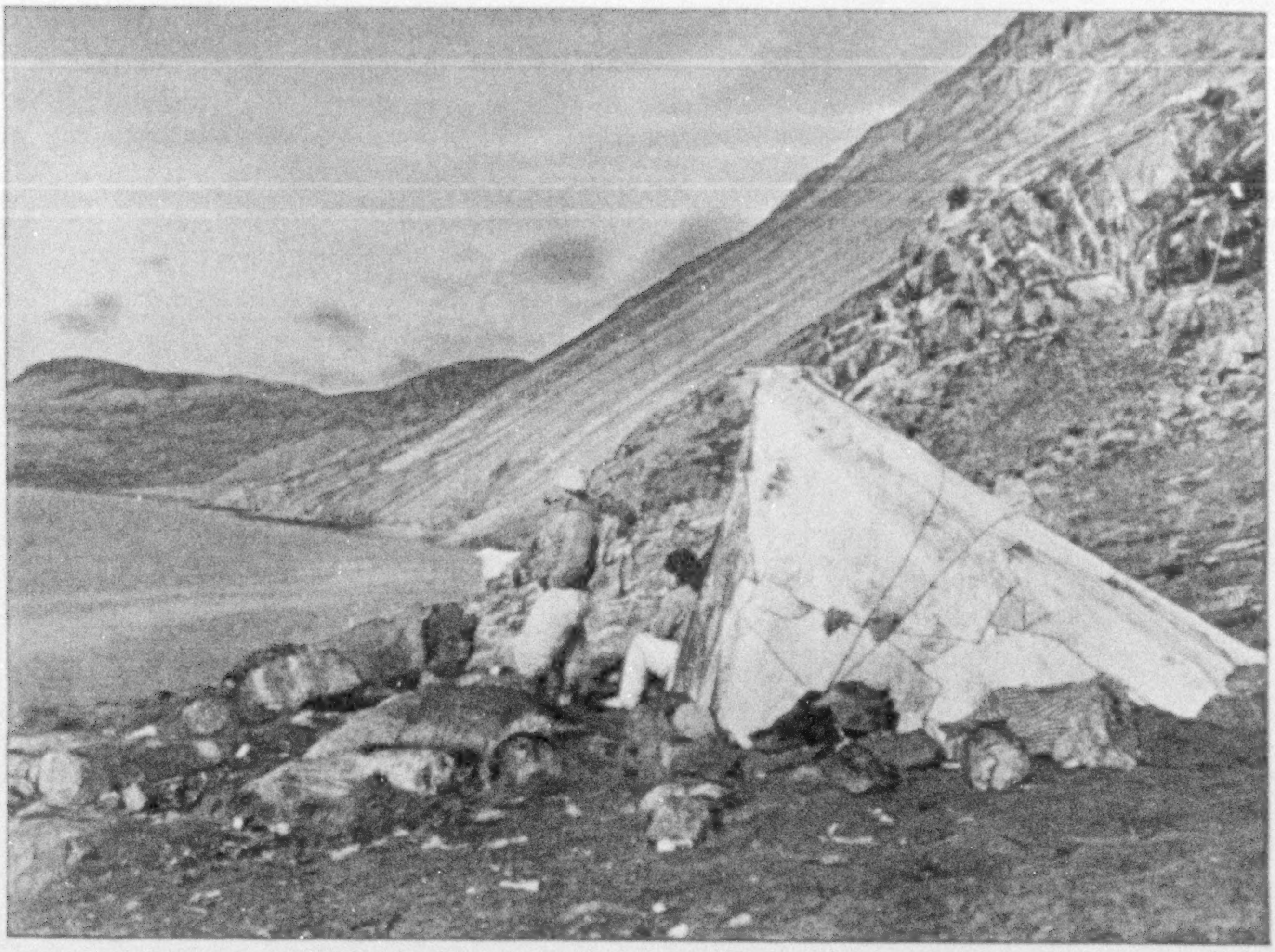
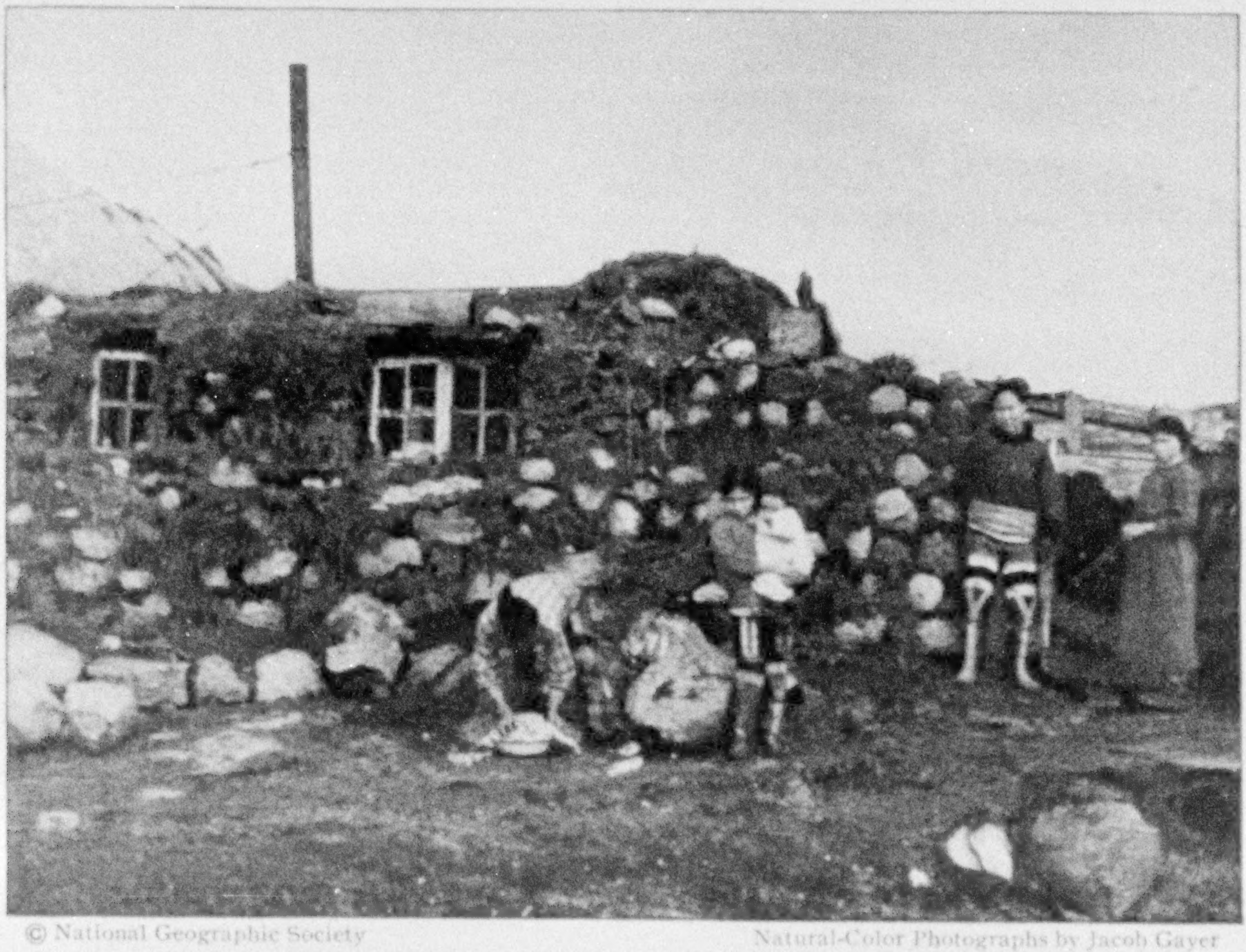
CHRISTINA OF HOLSTENSBORG

Her bead collar of intricate pattern weighs two pounds, and no other girl in all Greenland has its exact duplicate, for she has wrought her own design, as do all her friends. Her bright red boots are decorated with mosaic panels of vari-colored leather.



WATCHING FOR WALRUS

Before the door of his sealskin *tupik*, this Eskimo surveys the waters of Smith Sound for signs of "whale-horses," which will supply him with food for the winter and a bone tip for his harpoon.



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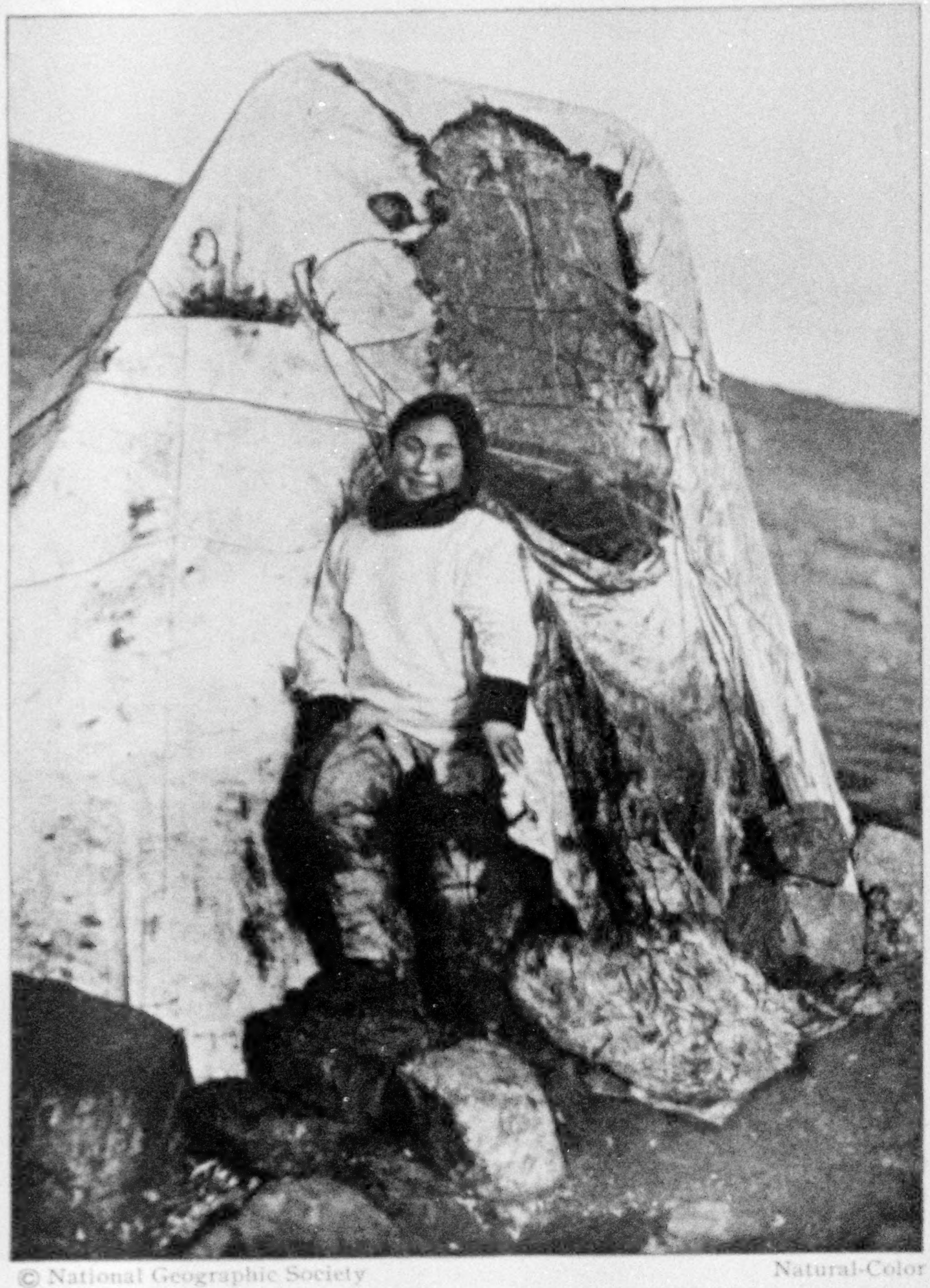
A NATIVE DWELLING OF SUKKERTOPPEN

In northern Greenland, the Eskimos dwell in underground rock and sod igloos during the winter and in sealskin tents (seen above) in summer. It is only on the march in winter that they build snow and ice igloos for temporary shelter. Southward one finds the houses built more and more above ground, until at Sukkertoppen such "pebbledash" residences as this are encountered. The mother of the household, in the foreground, is skinning birds.



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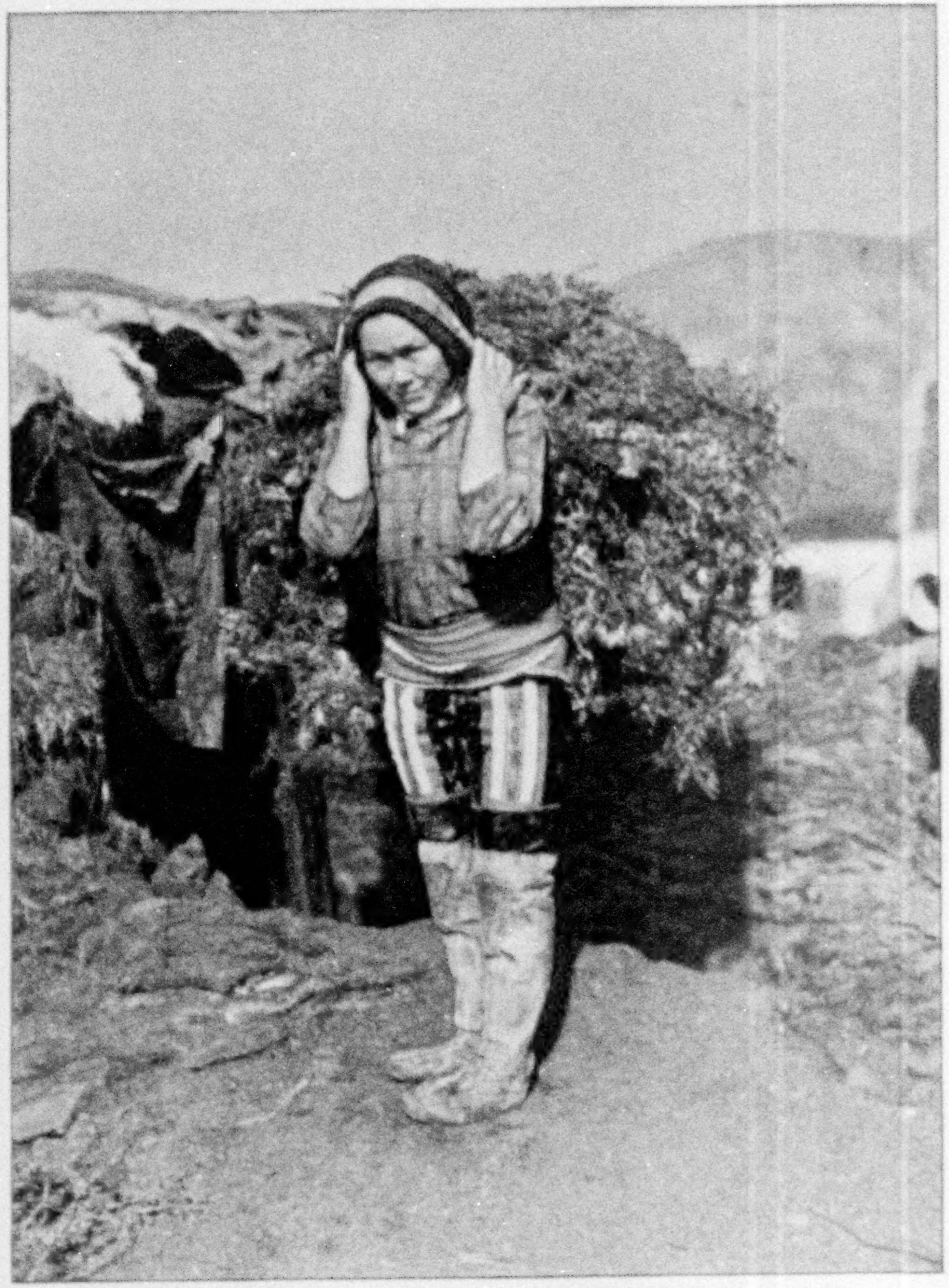
HER SUMMER "VILLA" BESIDE THE SEA

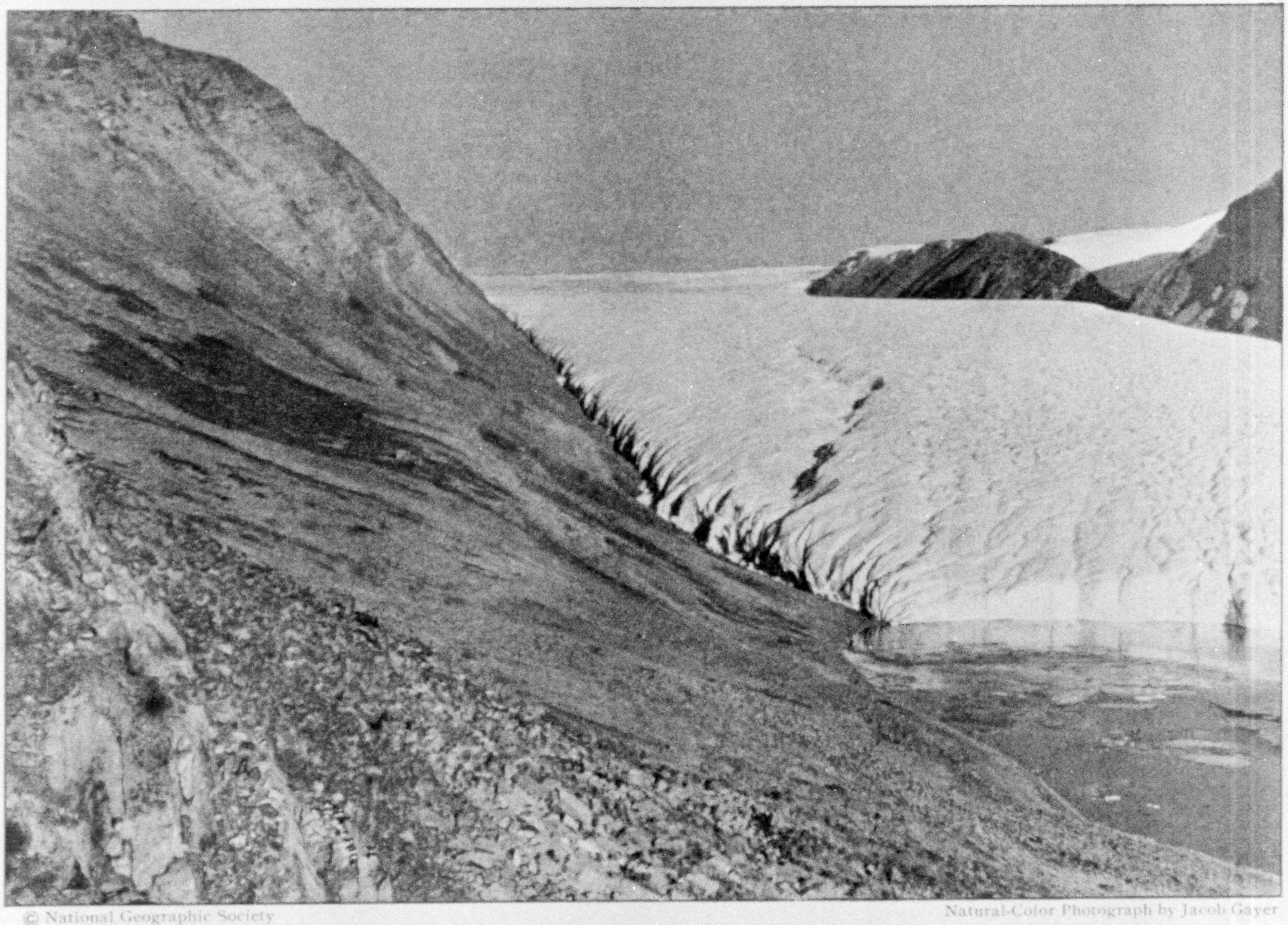
The walls of this Smith Sound Eskimo's tent are of sealskin from which the hair has been scraped. If the smoke and grime were removed from the young woman's face, she would be found to have unusually rosy cheeks.



Natural-Color Photographs by Jacob Gayer

BEARING A FOREST ON HER BACK

In northern Greenland whale oil is used exclusively for fuel, but in the southern part of the island willow trees three and four inches tall are gathered to keep the home fires burning (see also Color Plate III).



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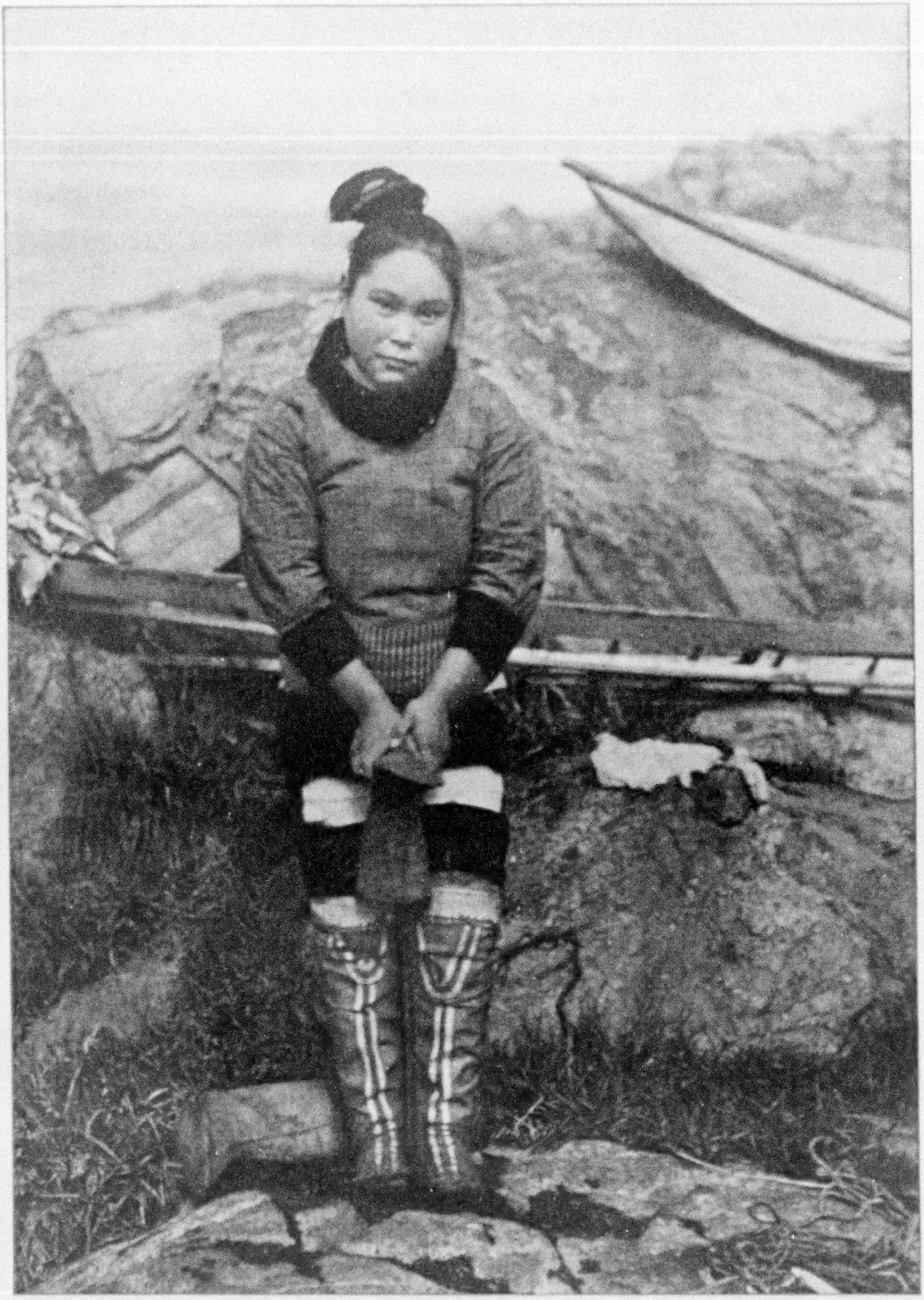
THE CORUSCANT SPLENDOR OF AN ARCTIC LANDSCAPE

The great glacier, sweeping slowly down from the inland ice-cap which covers the entire interior of Greenland, is gradually obliterating the pellucid lake at the head of Foulke Fiord, near the mouth of which is Etah, most northerly permanent settlement on the globe. Note the flock of little auks perched upon the lichen-covered rocks near the lower left corner.



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Natural-Color Photograph by Jacob Gayer

A BASHFUL BOOTMAKER

Much of the time of the native women of Greenland is devoted to the manufacture of footwear for themselves and the men of the family. Before the sealskin takes the form of the foot it must be chewed into pliability, and this practice results in the wearing down of the teeth almost to disfigurement. This young woman is standing on the crosspiece of a primitive last, over which she is stretching the boot.

species suffered from popularity that laws—and game laws in Greenland are a novelty—have accorded them some protection.

Not only do Eider flesh, down, and eggs figure in the Greenlander's economic arrangements, but also the skins have high value. From the breasts of the birds are plucked the shafted feathers, leaving exposed the down, and the skin bearing this down is then removed. Exquisite Eider robes are made of these skins, which are also fashioned into useful clothing.

MYSTERY SHROUDS THE ARCTIC TERN

The flocks of graceful little Sea Swallows, or Arctic Terns, which fly along the shores and dive into the waves for their food, do not attract the hunter, but they have the charm of mystery for the naturalist.

From the Arctic regions, where it breeds, the bird flies to the Antarctic, where it winters, but the course of the 11,000-mile stretch between is not known and probably never will be until the ornithologist and the aviator join hands and fly with the migratory birds from Pole to Pole. No other migrating bird flies so far and no creature on earth sees so much of daylight.*

On land the birds are few, and only four kinds, three species of Sparrows and the ominous Raven, are commonly seen. Back in the rocky interior, however, nests the Ptarmigan, the grouse of Greenland, which in summer is predominantly gray or brown and is scattered on the hillsides, but in winter turns snow white, except for the feathers of the tail, and descends to the seashore in flocks.

This winter visit often has fatal consequences to the feathered tourists, for the natives, always faced with their greatest urge, hunger, expect the birds and slaughter what they can for food. The Ptarmigan has another dreaded enemy in the snowy Gyrfalcon, a large, swift and fearless hawk, which scours the land for prey, and many feathers on the mountain slopes tell the story of a bird tragedy.

Among the Ptarmigans nesting on the hills breed the little Snowflake and the Redpolls, whose brilliant songs enliven the Arctic spring.

The Brünnich's Murre and the Sea Pigeon are common, but do not compare in numbers with the Dovekie (Little Auk).

Where the Dovekies breed, north of Melville Bay, the sky is filled with the flocks going to sea to feed or coming home, and the air rings with their maniacal cries. With a net on a pole the native catches these birds out of the air and stores the flesh for winter. From the skin of the breasts his underwear is fashioned.

BEYOND MELVILLE BAY LIES NORTH GREENLAND

Melville Bay, whose ice packs were the dread of the whalers of old, guards the way to the Far North, and only the summer traveler may hope to pass. The drift ice encountered to the south is often blue, but here everything is white.

Ice fields may stretch for miles ahead or fog may shut down upon struggling ships.

A snow-white bird, the Ivory Gull, flies silently through the snowy haze like an embodiment of its spirit, and over the frozen wastes roams the Polar Bear.

Ice-decked peaks at length loom beyond the dreary stretch; then the landscape smiles again and Nature treats the traveler to the loveliest spectacle of the Arctic. In the ocean there is no longer pack ice, but only an occasional iceberg, born of one of the huge glaciers that often fill the valleys to the water's edge.

Steep from the ocean rise cliffs whose rocks the spring sun clothes with plant life, causing the landscape to take on colors that rival those of our Indian summer. The predominant tones are brilliant orange, which shades through purple into black, according to the denseness of the lichen growth. Mosaicked into this brilliant groundwork are patches of green where the grass grows thick (see Color Plates VIII, X, XI, XV).

The summer snow takes on color, too, and large patches are stained a lovely pink where hordes of microscopic plants flourish on its melting surface. This is the "red snow" which Arctic travelers have so often seen (see Color Plate VI).

Back from the cliffs the land has gentler slopes, for here the ice in ages past has scoured harshly, and plants of many kinds are found. More than a hundred species of vascular plants are found in northwest Greenland and more than half that number live in Peary Land, the Ultima Thule of the Northern Hemisphere. Here there is no asylum from the winter winds, and the willows keep to the ground. Few of the plants have stems and the tallest summer growth hardly exceeds a foot.

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* See "Our Greatest Travelers: Birds that Fly from Pole to Pole," by Wells W. Cooke, in the NATIONAL GEOGRAPHIC MAGAZINE for April, 1911.

The botanist three thousand miles from home finds many friends in this distant land, for the flowers are very like some of those he has known before.

Mustards, Pinks, and Saxifrages, a dozen kinds or more of each, and Buttercups and Roses, with five or six kinds each, grow everywhere, and their pinks, whites, yellows, or purples make the landscape bright. But the brightest spots are where the flaming Lousewort and the yellow Poppies grow. Of dainty shades and sturdy growth, they vie in conspicuousness with the Cottongrasses that wave their snowy heads from many a shallow pool.

The Dandelion and the Bluebell are also common flowers, and in favorable places there are fine growths of Timothy hay. Arctic Timothy is a prized gift of Nature to the natives, and its luxuriant stems supply mattresses, boot stuffing, and towels and serve any other uses to which something soft and absorbent may be put.

GIANT GROWTHS IN ICY WATERS

Although the plants on Greenland are Lilliputian, there are giants in the surrounding icy waters. The familiar Rockweed of our North Atlantic coast, with its juicy little bladders, is found wherever the tide-borne ice does not scratch the bottom too smooth, and in times of famine it is gathered for food.

The plant wonder of the Arctic is the Giant Kelp, which grows in beds in deep water. Fastened by strong adhesive disks to some rock or clam shell, its huge ribbons, 20 feet or more in length, wave hither and thither in the tidal currents, where overhead the sea is covered with massive cakes of ice and during many months nocturnal darkness reigns at midday.

There are also Insects and Spiders, but none are ever troublesome. When the sun shines, a few kinds of Butterflies flit around, huge Bumblebees drone through the air, and Gnats and Flies buzz about, while Spiders come out of the cracks to bask on the leaves.

NO MICE OR SNAKES IN GREENLAND

Mice and the like do not exist except in the extreme north of Greenland, and the island rates with Ireland in the absence of Snakes. Not even Frogs are to be found, and the Foxes of the region have to subsist on the nesting birds and on what they pilfer from the Eskimo caches.

Hares alone are numerous on the land. Summer and winter they are white, and a wilder creature never lived. On rocky ground they may be found, but lucky is the traveler who sees one. If fortune should favor you with a glimpse, the Hare will have seen you first and will be standing upright at attention. His survey is completed before you are sure of what you see, and to your great bewilderment he may start away, dancing on his hindlegs. Thereafter he is seen no more. Young Hares are gray and are not so timid, and a good shot with a rifle can sometimes bag one.

The life of man in this polar land is harsh and strenuous. The animals on which he depends for food travel far and are often beyond his reach. In darkness he spends the dreary winter and only for a few short months does summer vary the scene of ice and snow. Nature seldom bestows less upon man on earth; yet nowhere has she more honest, more unselfish, or more contented children.

INDEX FOR JULY-DECEMBER, 1925, VOLUME READY

Index for Volume XLVIII (July-December, 1925) of the National Geographic Magazine will be mailed to members upon request.

TRANSYLVANIA AND ITS SEVEN CASTLES

A Motor Circuit Through Rumania's New Province of Racial Complexity and Architectural Charm

By J. Theodore Marriner, Ph. D.

Secretary of Embassy of the United States of America

RUMANIA always was a land of contrast, geographically, socially, and historically, but since the great accretions to her territory that have come about as a result of the World War the contradictory elements within her borders are even more striking.

She contains an epitome of the history of Europe from Roman times to the present, and people and places illustrative of each stage are found side by side within her confines.

One may see on the same day a shepherd in a long fleece cape, moving across the plains toward the mountains, like a quaint survival of an ancient civilization; a fiery nomadic gypsy galloping along a dusty road, with long hair streaming; a peasant like a soldier from Trajan's Column at Rome, with white, embroidered blouse and thong-bound legs, scratching the soil with a primitive plow; a nobleman in his castle gazing down into a medieval Saxon village; and an oil magnate scattering his wealth amid Bucharest's imitative charms.

TRANSYLVANIA IS THE WEST'S FRONTIER AGAINST THE EAST

Many of these contrasts were inherent within the prewar boundaries and all of them in much enlarged postwar Rumania, due to the addition of Transylvania to the kingdom. This is because Transylvania, known in Rumanian as Ardeal (Forest Land), in Hungarian as Erdely, and in German as Siebenbürgen, has been the frontier of the West against the East for centuries.

Its inhabitants have, furthermore, successfully maintained that border against the Turks since 1700, and this history of border wardenship has given the region its racial complexity and architectural charms.

Nowhere in Europe is the sense of pleasant remoteness more keenly felt than in this district. Though little known to a traveling public, it is part of the stuff that all our dreams are made of, through such novels as "The Prisoner of Zenda" and "Graustark," which seem either consciously or unconsciously to have been laid in the neighborhood of some one of the Seven Castles which give the German name, Siebenbürgen, to the province and which are quartered on the arms of greater Rumania.

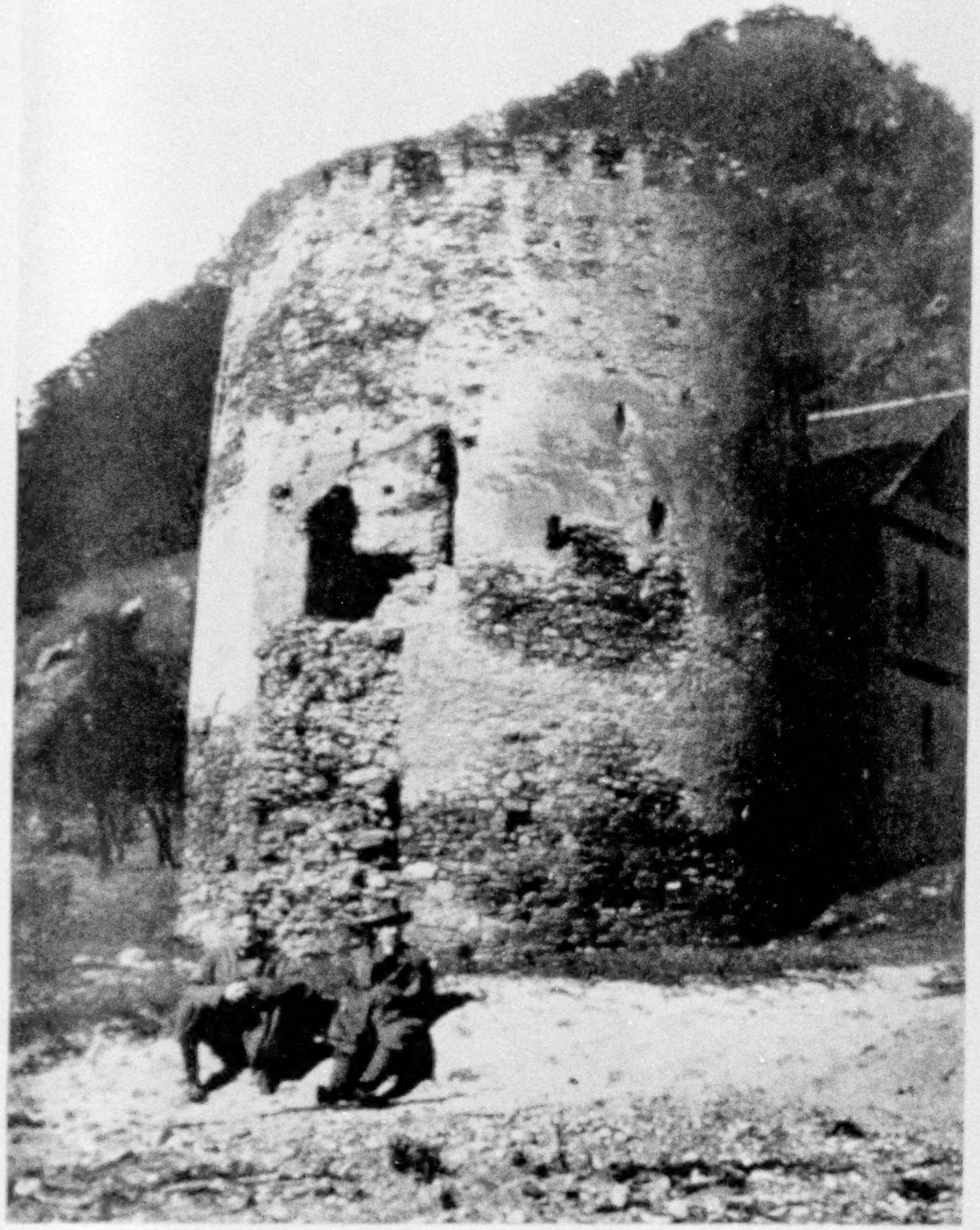
These towns are Brasov (Hungarian, Brasso, and German, Kronstadt), Bistrita (Besztercze, Bistritz), Cluj (Kolozsvar, Klausenburg), Sebesul Sasesc (Szaszsebes, Mühlbach), Sibiu (Nagy Szeben, Hermannstadt), Medias (Medgyes, Mediasch), and Sighisoara (Segesvar, Schässburg). They were settled by Germans from Franconia, who were locally called Saxons and who, in all the years of their separation from Germany, have maintained a close connection with their mother country, its culture and institutions, the while efficiently keeping the Carpathian frontier.

They had likewise the coöperation of the Szeklers, close kinsmen of Magyars, who for their delight in combat had been settled along the northern portion of the mountain wall. Back of these warders the mass of Magyar farmers and Rumanian laborers, foresters, and shepherds tilled the fertile valleys between the rolling foothills that gradually ebb from the Carpathians toward the Hungarian plain.

CARPATHIANS ACCOUNT FOR TRANSYLVANIA'S HISTORY

It is this mountain wall that accounts for the history of Transylvania—a jagged, glorious barrier that dominates the landscape.

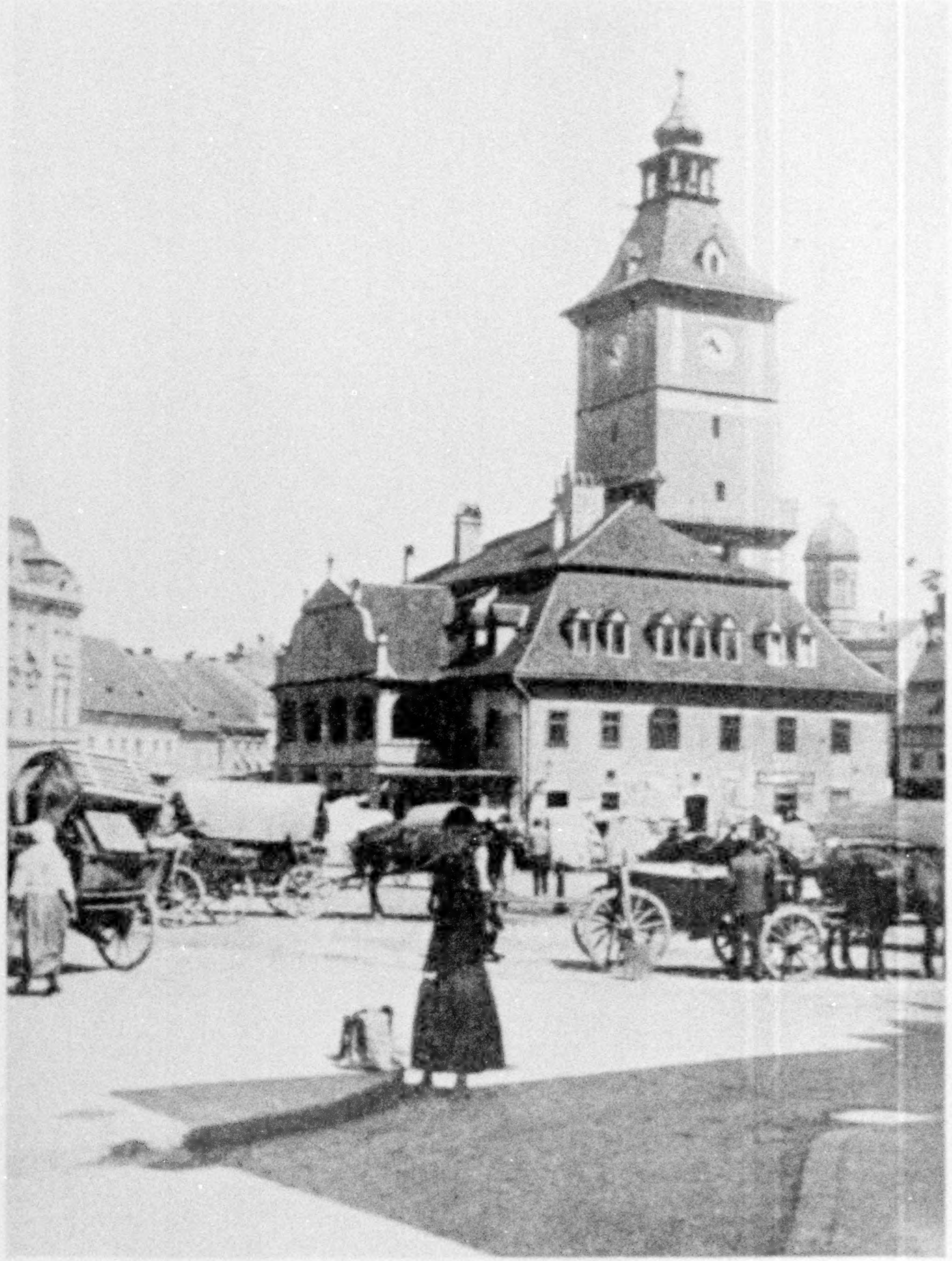
The Saxon woman, pausing in the field to adjust her straw sailor hat atop her tightly bound kerchief, gazes at the rugged heights as if at the border of the



Photograph by J. Theodore Marriner

THIS STRONGHOLD HELPED TO HOLD BACK THE TURK

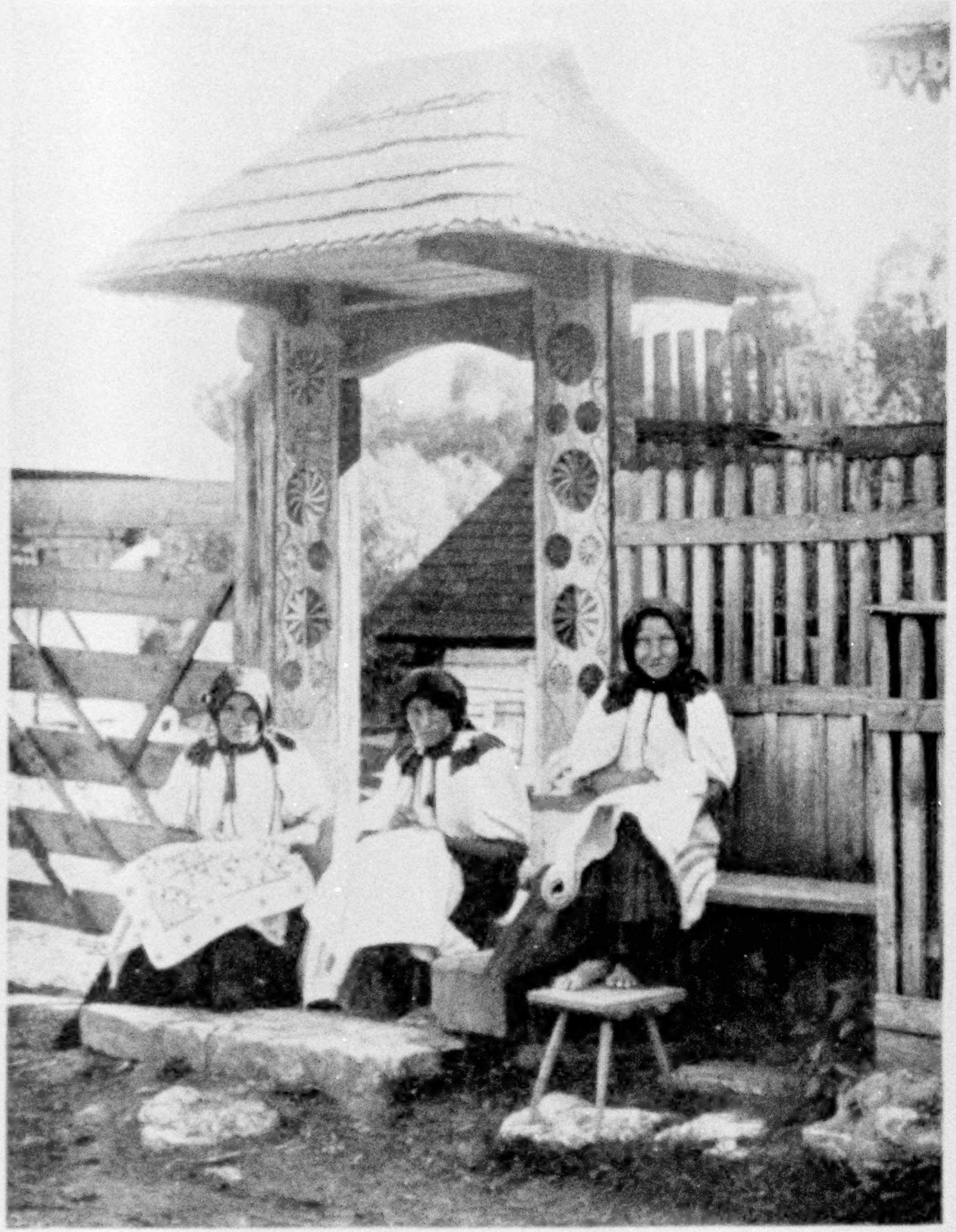
The Red Tower once guarded the important Turnu Rosiu Pass (which takes its name from the tower). The road through this pass in the Carpathians was built by the great Roman Emperor Trajan (p. 323).



Photograph by Gustav Koch

THE TOWN HALL OF BRASOV (KRONSTADT)

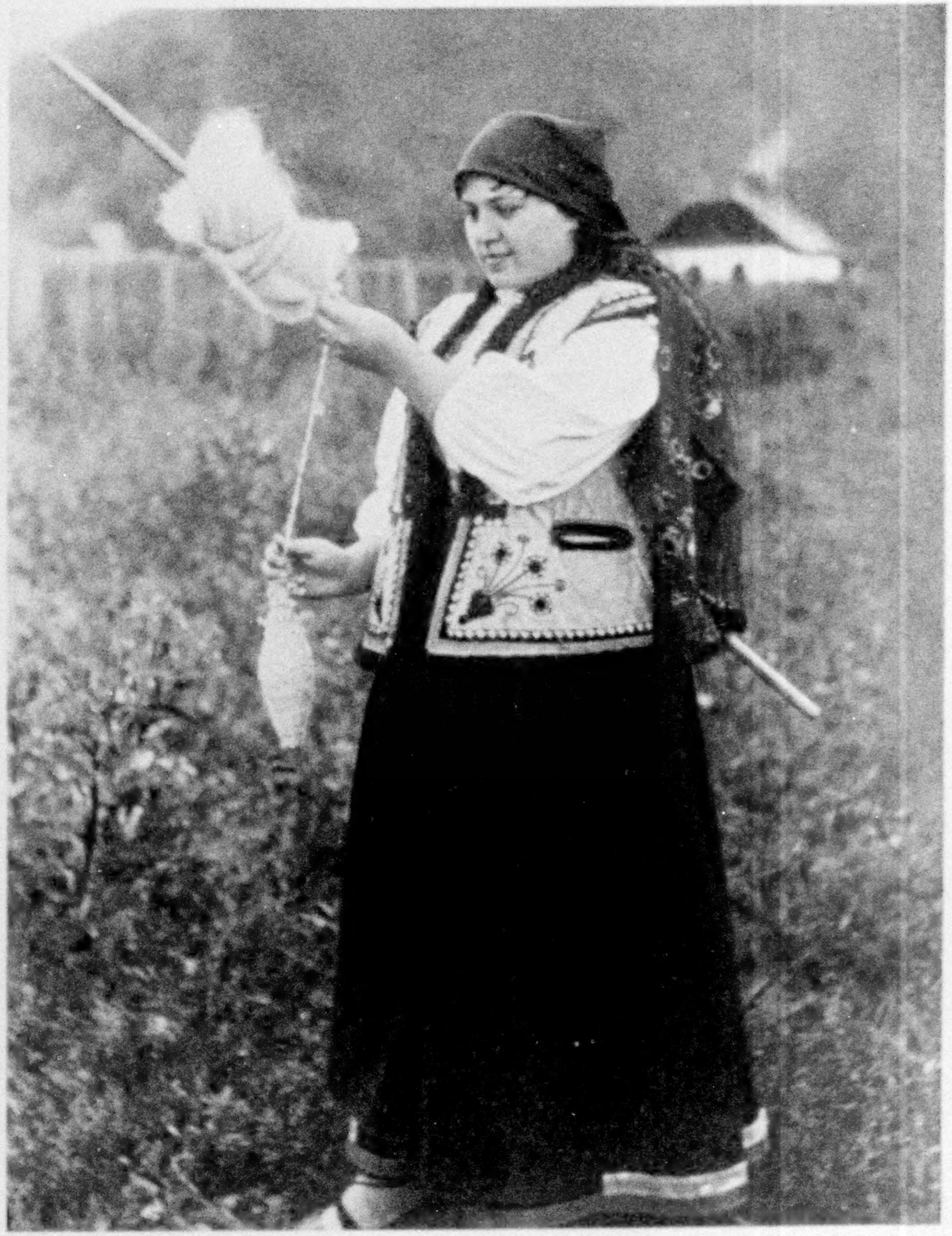
Saxon colonists were brought into Transylvania in the 12th and 13th centuries, and Brasov, a city of about 60,000 people, remains to-day more Saxon than Saxony.



Photograph from Charles B. Keeler

TRANSYLVANIANS LAVISH CRAFTSMANSHIP ON THEIR HOMES

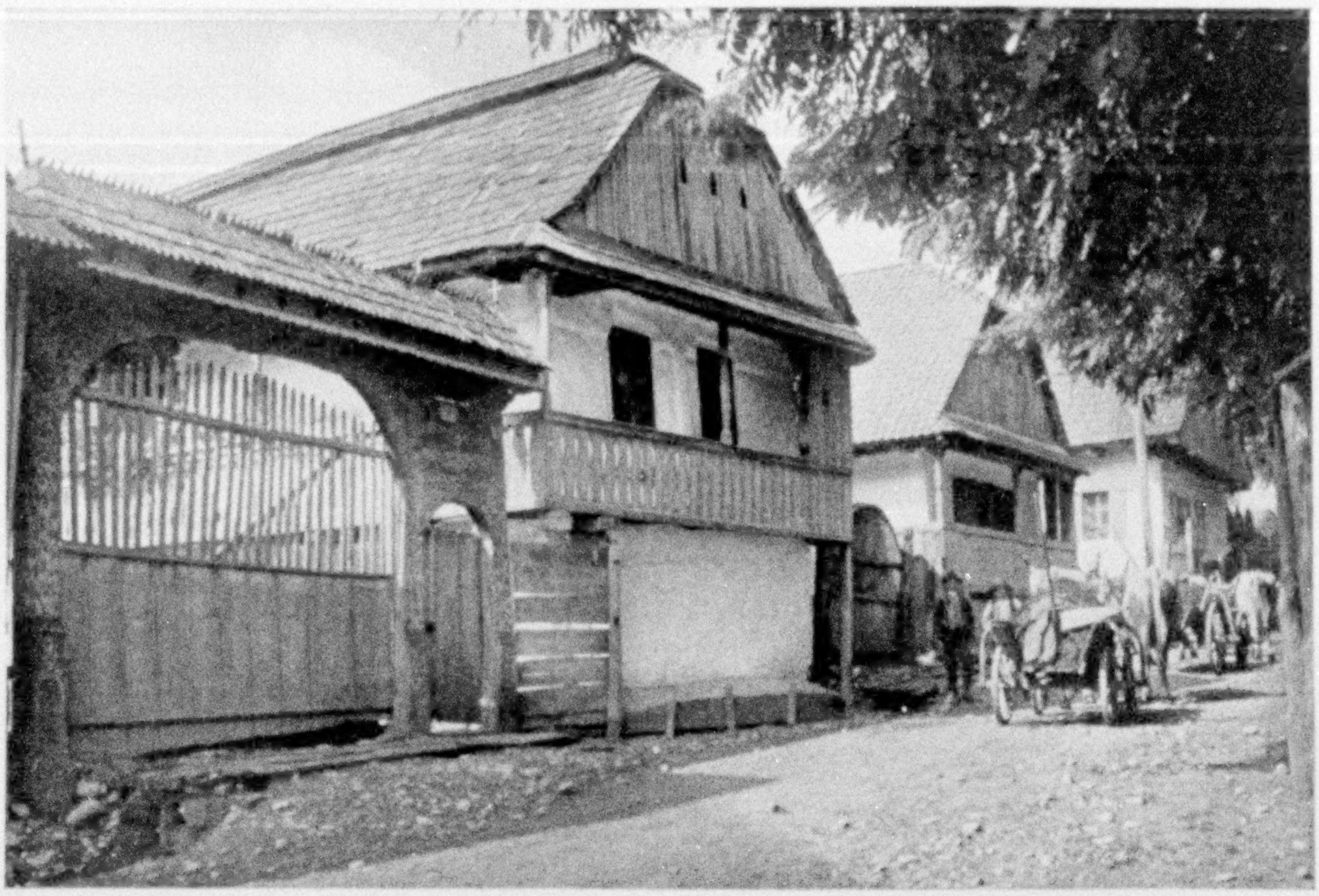
Ornate bits of wood carving and decoration, such as is to be seen on this gateway, grace many of the homes in Rumania's newly acquired province.



Photograph by Erdelyi

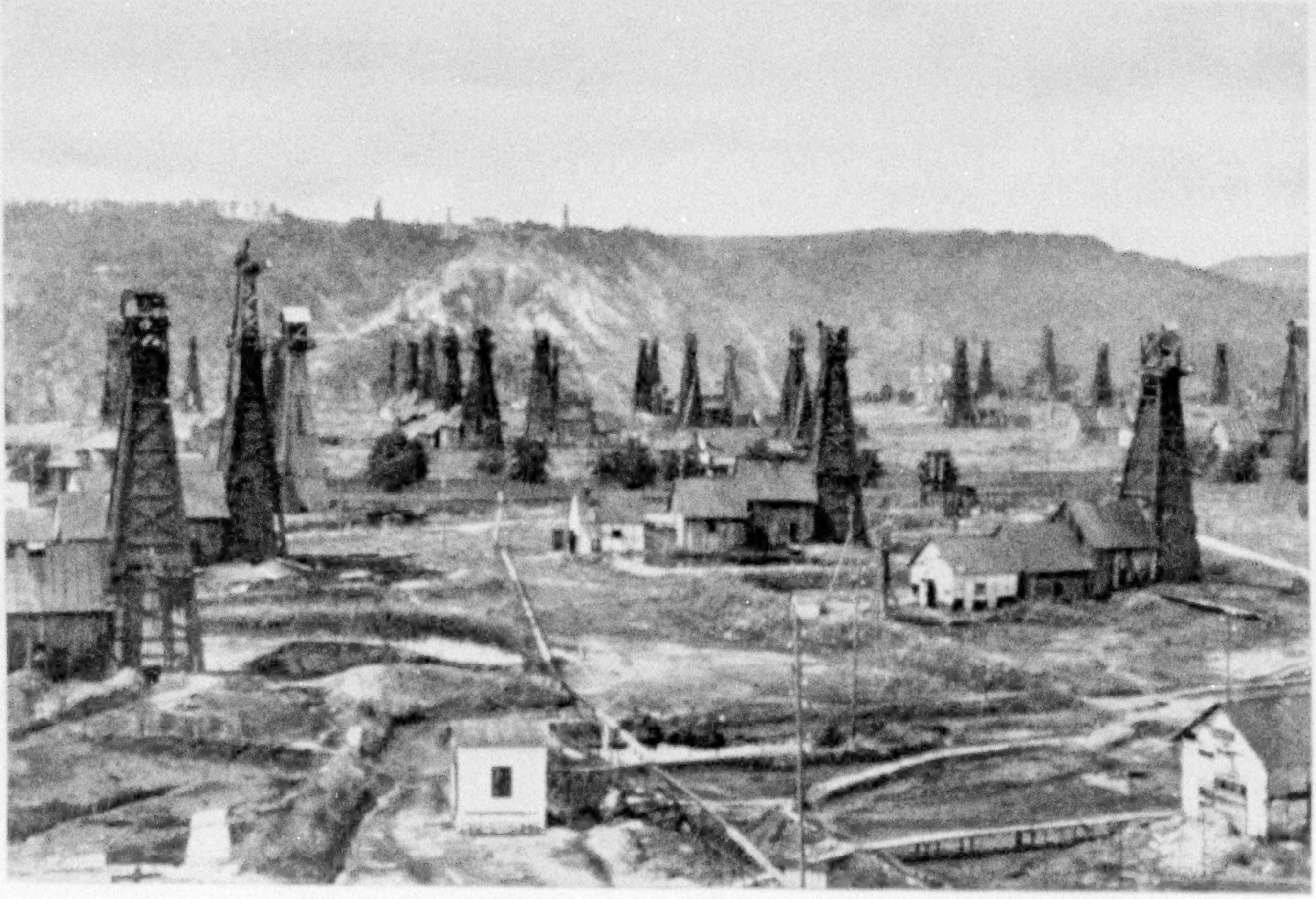
"WORK IS A GOLDEN BRACELET"

This old proverb is strictly adhered to by the girls of Rumania, whose hands are always employed. When out for a stroll they may be seen spinning the flax for their lovely linen embroideries.



Photograph by Erdelyi

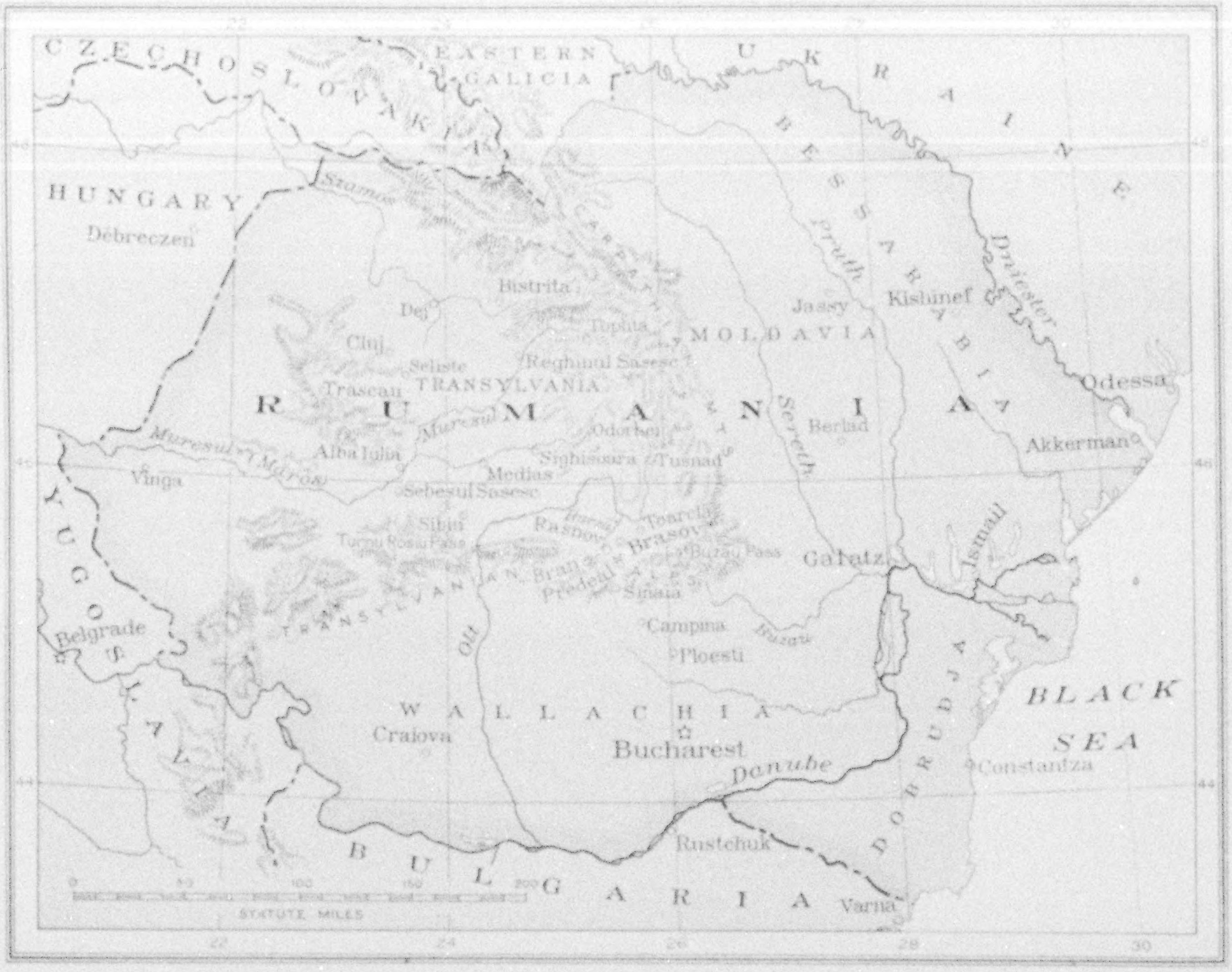
A STREET IN THE VILLAGE OF ODORHEI



Photograph by Merl La Voy

MORE PRECIOUS THAN MUCH FINE GOLD

One of the most valuable natural resources of Rumania is her oil. The kingdom ranks sixth among the petroleum-producing regions of the world and in 1925 its wells yielded in excess of 2,000,000 tons of this increasingly important commodity.


CZECHOSLOVAKIA
EASTERN GALICIA
UKRAINE
HUNGARY
Débreczen
Szamos
CARPATHIAN
BESSARABIA
Pruth
Dniester
Bistrita
Dej
Toplita
MOLDAVIA
Jassy
Kishinef
Cluj
Seliste
Reghinul Sasesc
Trascau
TRANSYLVANIA
Odessa
RUMANIA
Muresul
Muresul (Maros)
Alba Iulia
Odorhei
Berlad
Sereth
Akkerman
Vinga
Sighisoara
Tusnad
Medias
Sebesul Sasesc
Ismail
Sibiu
Turnu Rosu Pass
Rasnov
Tearcla
Brasov
Buzau Pass
Galatz
Bran
Predeal
TRANSYLVANIAN ALPS
Sinaia
YUGOSLAVIA
Belgrade
Campina
Buzau
Ploesti
Olt
DOBRUDJA
BLACK SEA
WALLACHIA
Craiova
Bucharest
Danube
Constantza
Rustchuk
BULGARIA
Varna
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STATUTE MILES
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48

Drawn by A. H. Bumstead

A MAP OF RUMANIA

As a result of the World War this country doubled its area, making it the largest of the Balkan States. Its most important acquisition of territory was Transylvania.

unknown. The Rumanian cowherd, driving his sleek cattle along the Olt, knows that beyond those heights the brothers of his race now rule; and the Magyar farmer looks upon them and wishes they had been higher and untraversable.

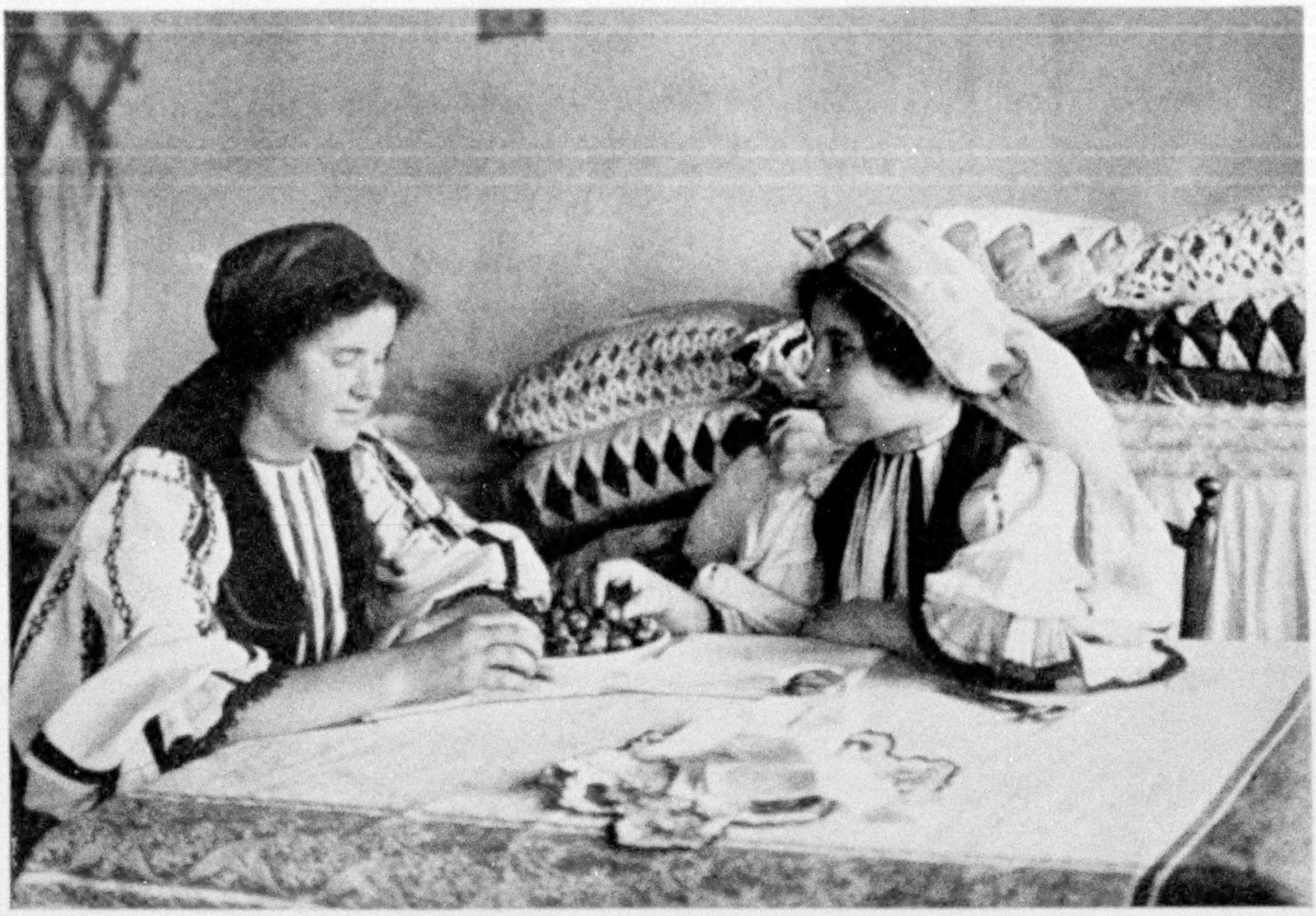
ORIENTAL CONTACTS AUGMENTED TRANSYLVANIA'S CHARM

Yet, had the mountains been impenetrable, Transylvania would have been neither so picturesque nor so rich. Fear of the Turks accounts for the walled towns, fortified churches, and great castles. Trade with the East accounts for the prosperity of the guilds in Brasov and other towns, as well as for the beauty of such structures as the Black Church, with its priceless collection of prayer rugs.

All these influences on the West were exerted by the Turk through the four passes of the Carpathians at Buzau, Predeal, Bran, and the Turnu Rosiu, the first three being mountain defiles difficult of access and easy to defend. The last is a river valley, the principal thoroughfare since Roman days, as evidenced by ruins of the ancient watchtower which gives the pass its name (see illustration, page 320).

Transylvania, on account of its geographic situation, like a natural fortress on the borders of Europe, has been semi-independent from early times, and was recognized among the titles of the King of Hungary as a grand principality. However, administratively, it had been since 1868 an integral part of Hungary.

Previous to that date it passed through many vicissitudes, being first a semi-independent portion of the kingdom in which Kings Geza II and Andreas II settled the Teutonic knights and Saxon colonists to keep the border against the heathen. This status continued for about two centuries, when it became practically autonomous under Turkish sovereignty, electing its own voivodes (princes) from 1526 to 1699.



Photograph by Erdelyi

SISTERS OF SELISTE

The young women of this Transylvanian village have been famous for their beauty since the days of King Matthias Corvinus, in the 15th century. This is one of the towns where the girls forswear colors and wear nothing but black and white (see, also, illustration, page 335).

On the latter date, at the Peace of Karlowitz, Leopold I of Austria regained it and confirmed the rights of the three privileged nations—the Saxons, Magyars, and Szeklers. Maria Theresa raised it to the rank of a grand principality.

In 1849 it was separated from Hungary and for a brief time was an Austrian Crown land, with its own diet, which, in 1860, at Sibiu, recognized the rights of the Rumanians as the fourth nation in the principality. These privileges were, however, canceled at the diet in Cluj in 1865 and the province was reintegrated to Hungary in 1868.

THE APPROACH FROM BUCHAREST

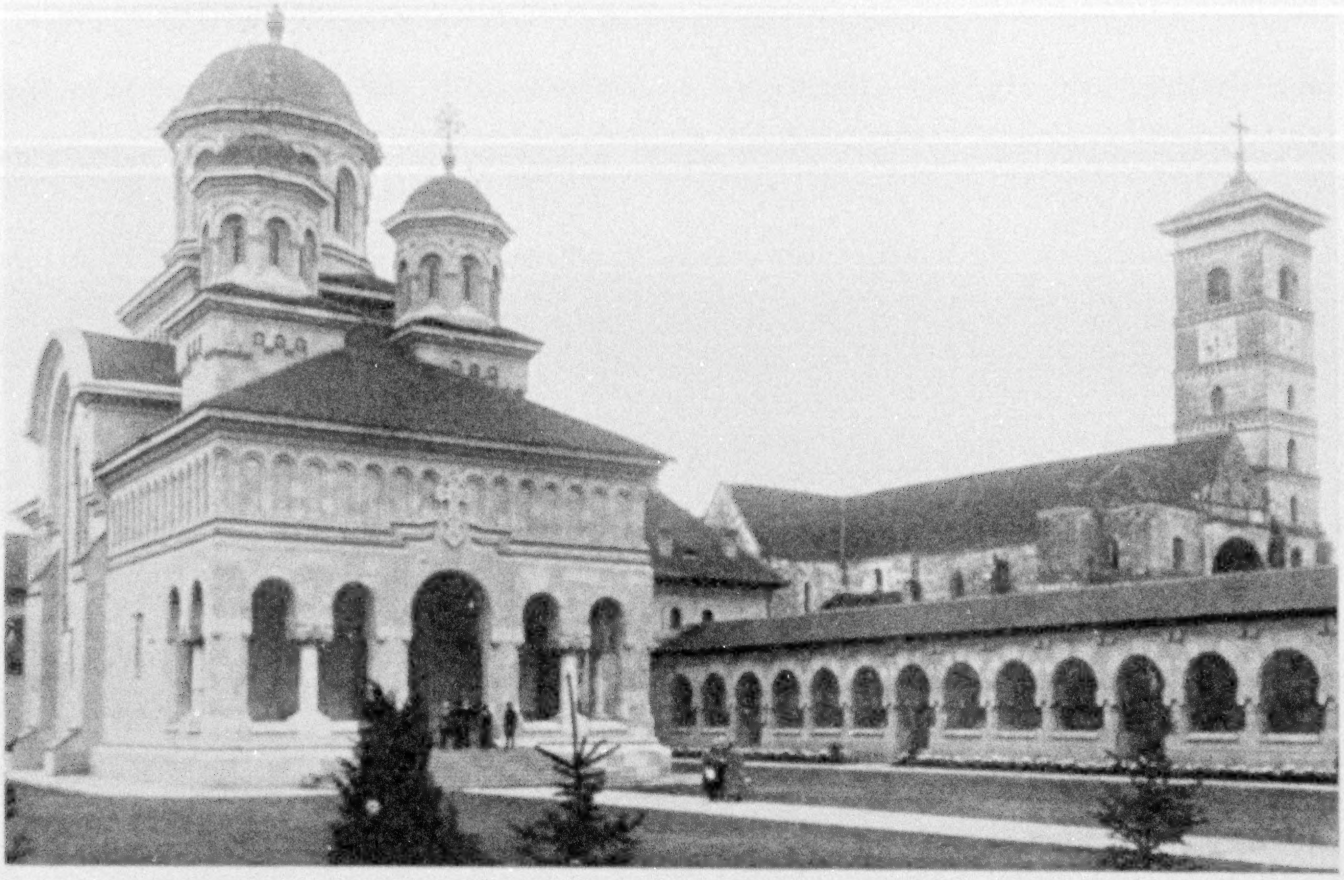
In this status the country remained until 1918, though not without certain uprisings among the Rumanian population which was denied many of the political rights enjoyed by the other three nationalities. As a result of the peace treaties following the World War, and on the basis of the fact that a larger portion of the inhabitants of this region were Rumanian in race and language, the province became a part of Rumania.

The best way to obtain the full flavor of Transylvania is to approach it from the east via the road from Bucharest to Sinaia, across the baking, dusty plain, through the region heavy with the odor of petroleum, up the slopes of the Carpathians where mountain streams have gashed rough earth wounds in the hillside, past artificial folklore castles, to the ancient frontier of Transylvania, at the top of the pass at Predeal.

Here, upon emerging from the narrow valley on a high plateau, there is spread before one a view of the receding foothills and expanding plain of Transylvania.

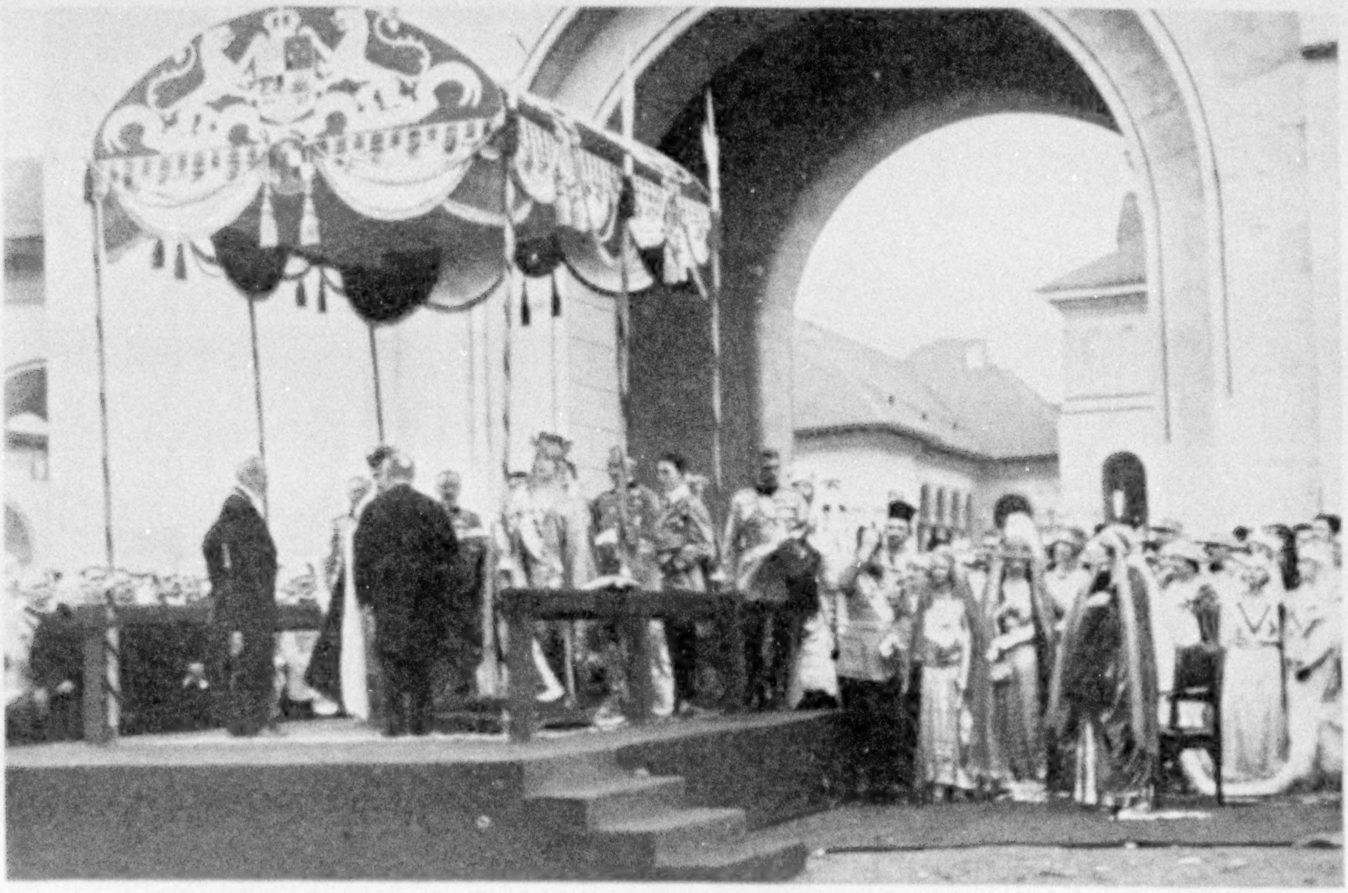
No longer do formalities of customs or passports detain the traveler, and the motor begins its long, slow descent by the ruin of the old customhouse. Once, when new and shiny, it was a symbol of division; now shell-torn and dilapidated, it is a monument of union.

Over the brow of the hill the works of



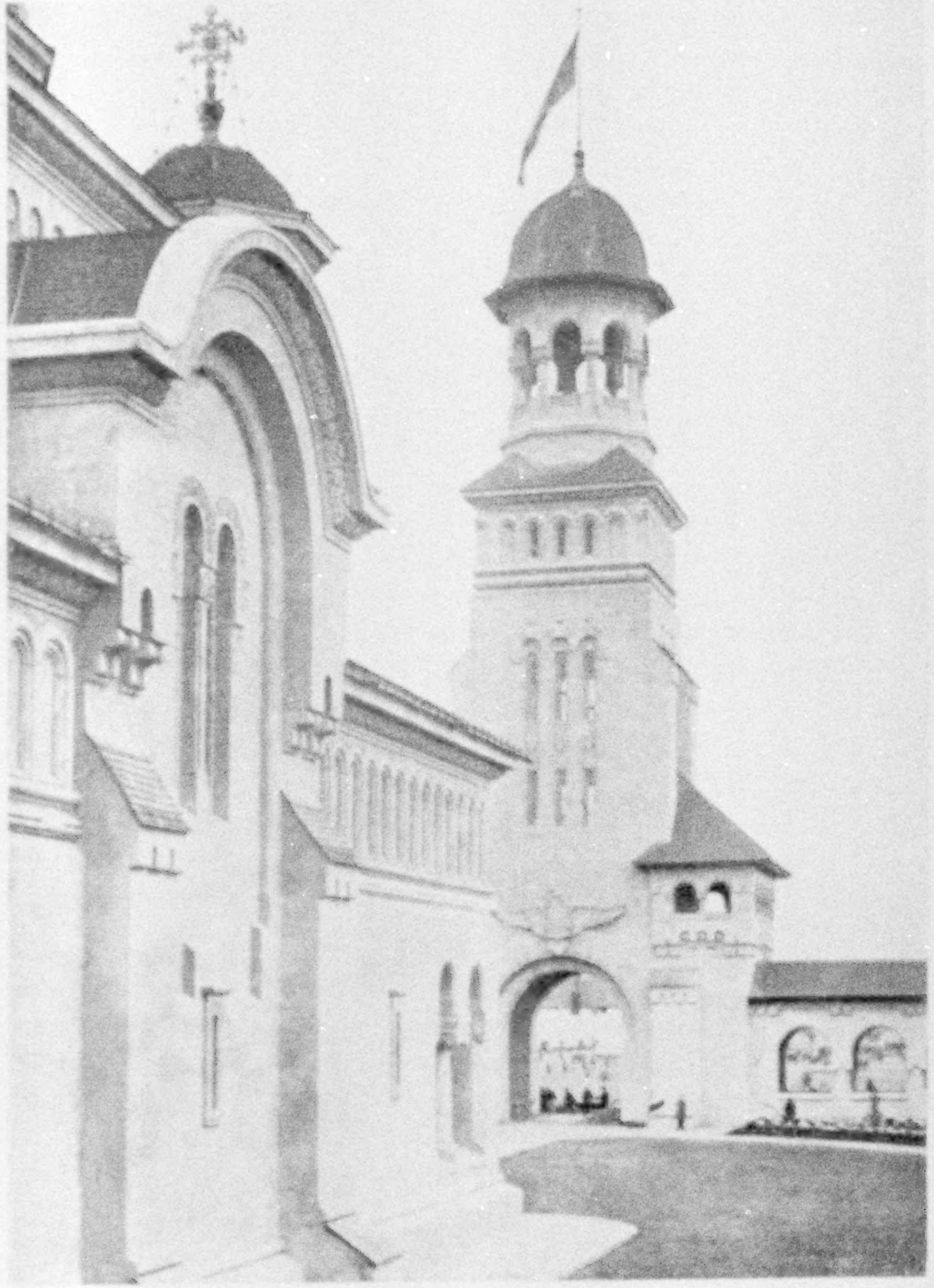
GREEK AND ROMAN CHURCHES AT ALBA IULIA (KARLSBURG)

The new Coronation Church on the left is dedicated to the Greek Orthodox Faith and was built especially for the coronation of King Ferdinand and Queen Marie in 1922 (see below). On the right is the Cathedral of St. Michael.



THE CORONATION OF KING FERDINAND AND QUEEN MARIE AT ALBA IULIA

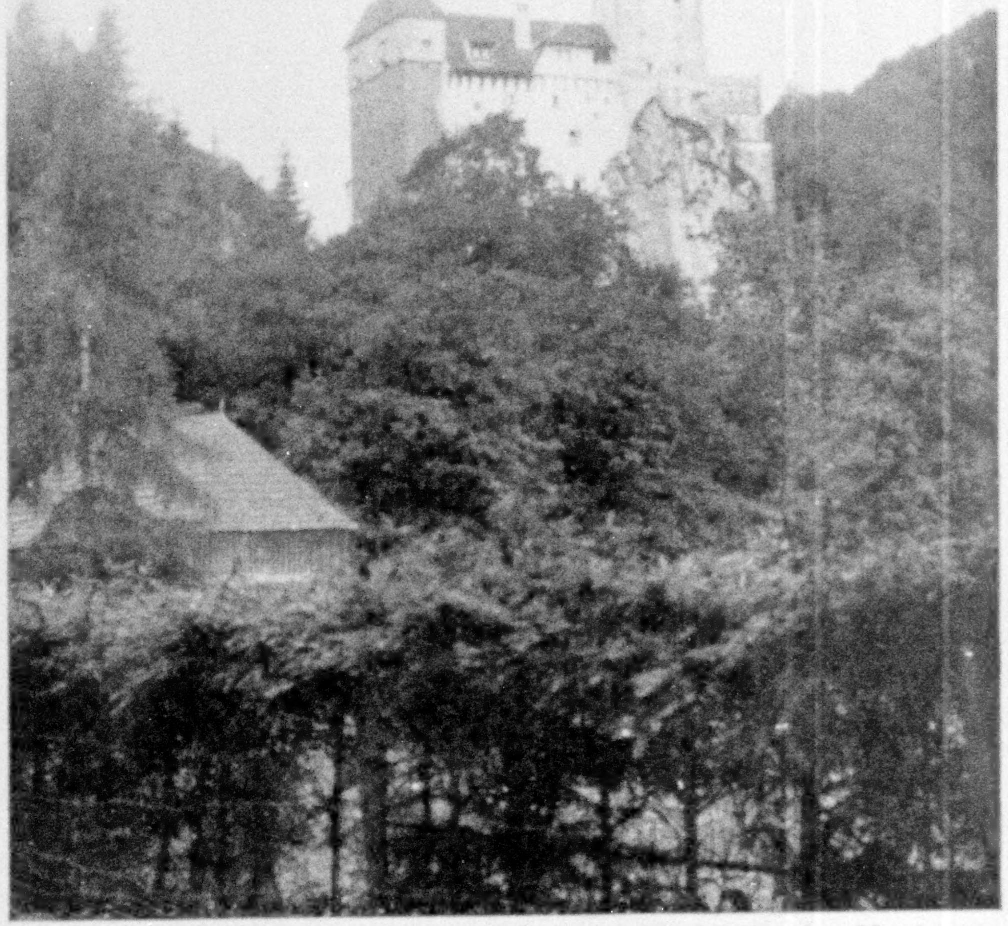
After Transylvania had voted in favor of union with Rumania, Alba Iulia was selected for the coronation of the new monarchs because of its historic associations as the old center of the battle for Rumanian liberties. Only one firm of photographers was allowed to take pictures of the coronation, and the receipts from the sale of these went to a cultural foundation for educating the peasants.



Photograph from J. Theodore Marriner

THE CORONATION CHURCH AND BELL TOWER OF ALBA IULIA

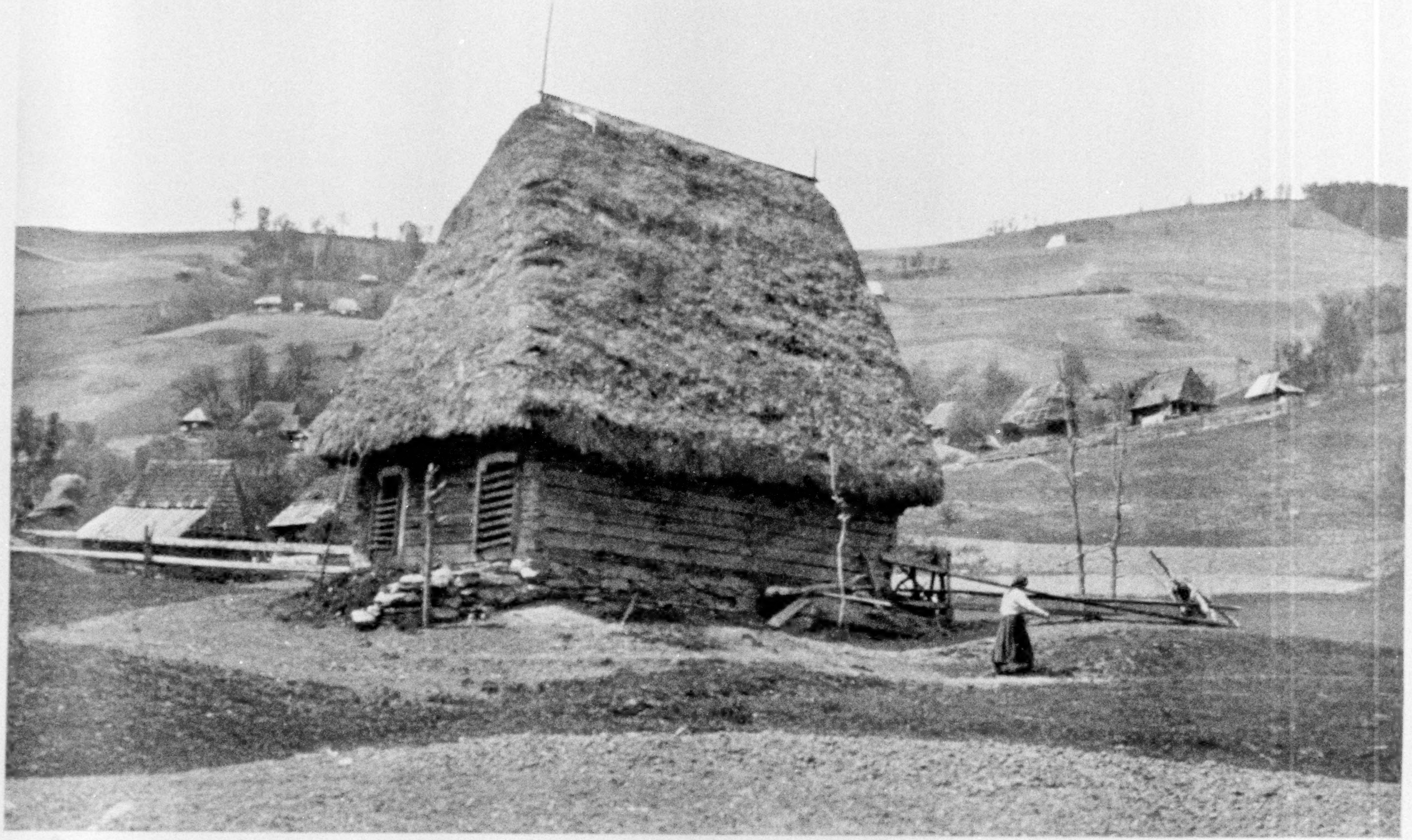
It was here that King Ferdinand and Queen Marie, in October, 1922, signalized their formal assumption of sovereignty over Transylvania (see, also, page 325).



Photograph by J. Theodore Marriner

THE CASTLE OF BRAN

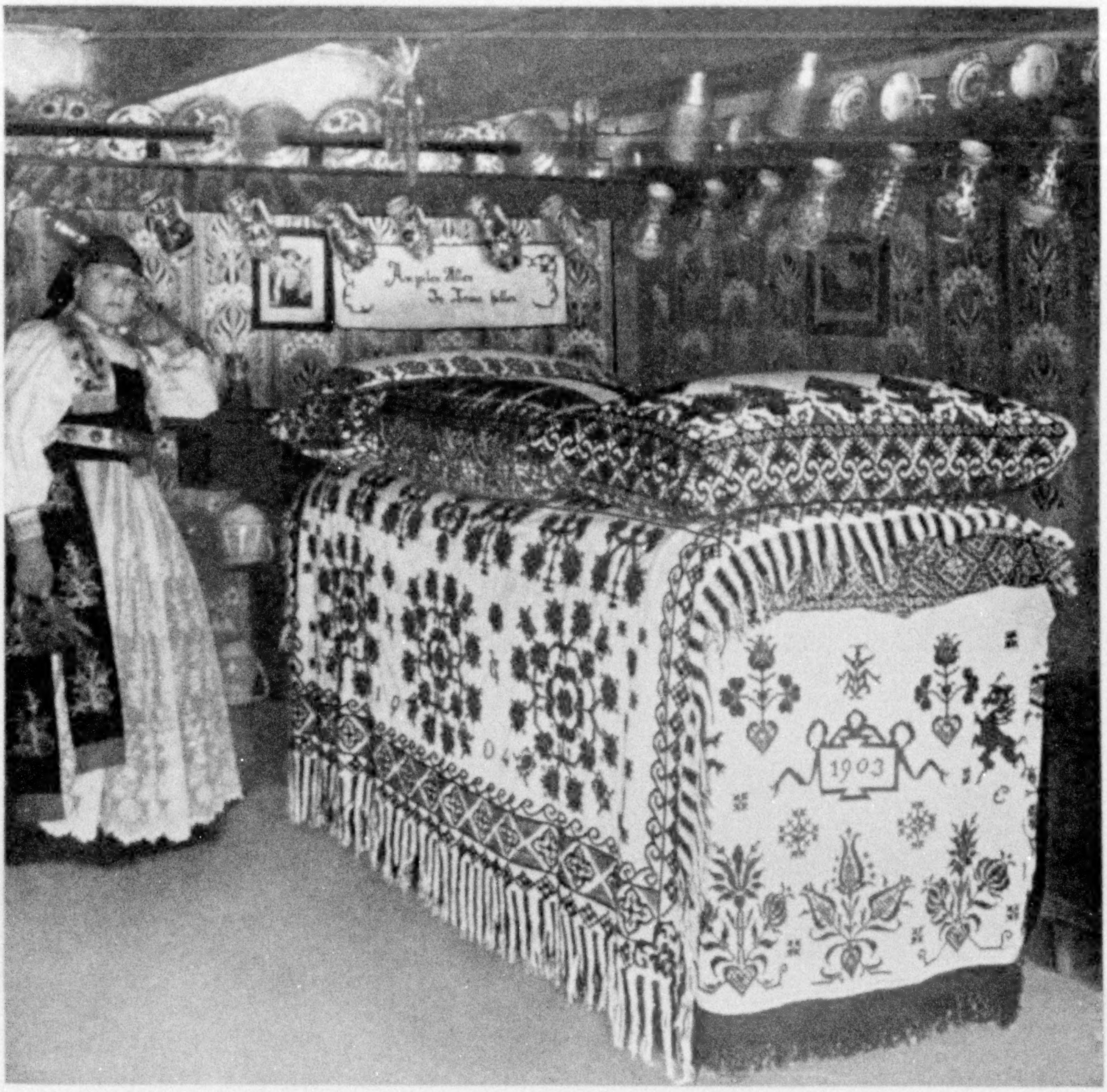
Prior to 1918 this castle belonged to the Hungarian Government, but when Transylvania became a part of Rumania the people of Brasov presented the old fort to Queen Marie (see text, page 332).



Photograph by Merl La Voy

A DISAPPEARING TYPE

These peasant farm homes are of the old type prevalent when the land was held in large estates. Since its distribution among the peasants more prosperous times have come.



Photograph by Erdelyi

A BIT OF SAXONY SURVIVING IN TRANSYLVANIA

The lace apron worn by the housewife and the floral designs on the embroidered bed cover are distinguishing marks of the Saxon. Rumanian designs are nearly always variations of geometrical figures.

man and the aspects of Nature change. The excellent macadam road, with granite retaining walls, descends in seven even hairpin turns beside a brook tinkling over stones and confining itself in orderly fashion within its verdant banks.

Infrequent cottages are substantially built of stucco and freshly painted, in contrast to thatched mud-and-wattle huts on the other side of the pass.

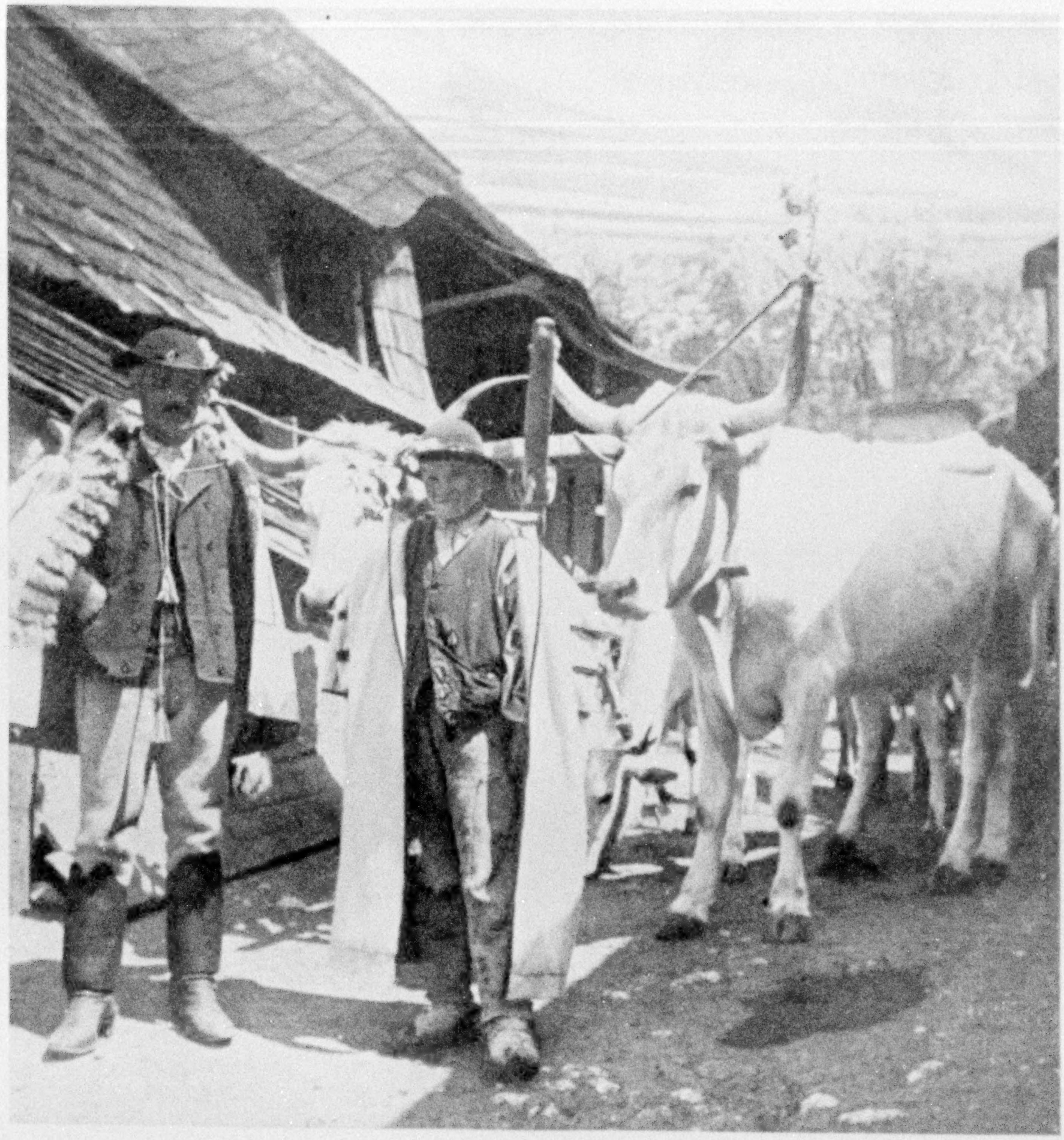
Before one comes in sight of Brasov one is already aware of what the mountain barrier has meant and what it has protected for so many centuries.

In about half an hour from Predeal the mountains give way to the fertile plain known as the Burzenland, which surrounds Brasov.

BRASOV, SAXON STRONGHOLD, URGED BY SOME FOR RUMANIA'S CAPITAL

This town of some 60,000 inhabitants has been suggested as a capital for the new and greater Rumania, and it has much to recommend it, being almost in the center of the country, easily defended, having the charm of age and tradition and room for expansion in the surrounding plain.

Nevertheless, the tourist cannot but be grateful that nothing has as yet come of a project which would annihilate an an-



Photograph by Erdelyi

SZEKLER (HUNGARIAN COLONIST) FARMERS FROM TRASCAU (SEE, ALSO, PAGE 350)

In the mountainous Carpathian country oxen are commonly used as draft animals because of their superior strength and endurance.

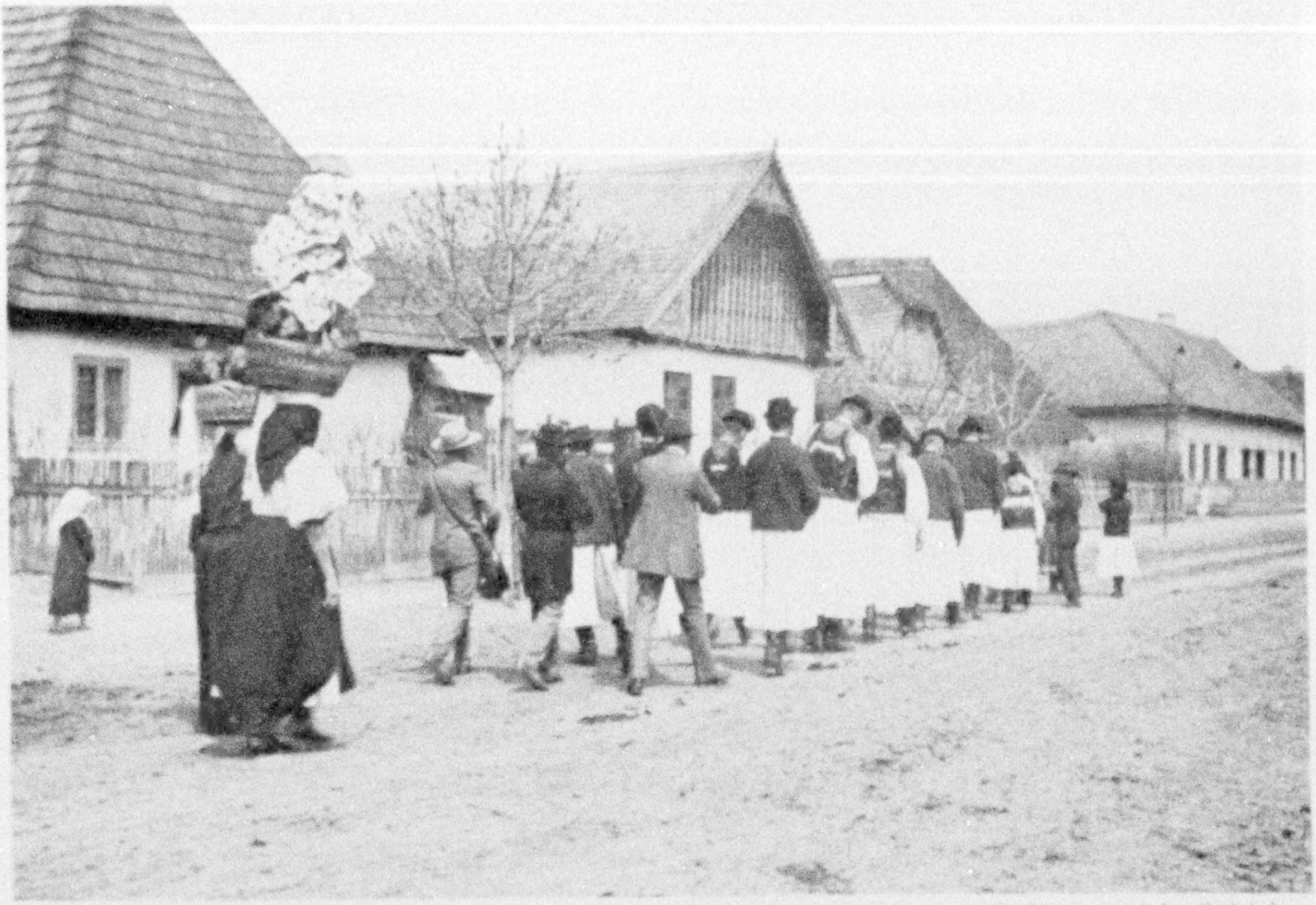
cient Saxon border stronghold amid Frenchified public buildings, such as modern architects would be likely to erect to house the official departments of this highly centralized government.

RACIAL AND NATIONAL TYPES FREQUENT BRASOV'S MARKETS

Unaware of an impending fate that might bring financial prosperity and esthetic ruin, the city glistens in the sun as the motor coasts from the Predeal Pass into the suburbs. Wide, mountainous streets are lined with neatly painted, light-blue and chrome-yellow, one-story houses, attached to one another by elaborate area gateways, all shut.

The streets narrow toward the center of the town and lead to King Ferdinand Square, in which stands the Renaissance Town Hall, built in the fifteenth century and remodeled with baroque fervor in 1777 (see page 320).

Here are held the markets, which bring together a rich variety of racial and national types. The burghers of the town



Photograph by Erdelyi

A WEDDING PROCESSION

It is customary in Transylvania for nearly all the young people in a village to take part in the ceremonies and festivities attendant on a wedding. The young men are seen accompanying the bridegroom to the house of the bride, followed by musicians. The women, bringing up the rear, are carrying food for the marriage feast, one basket being piled high with waferlike plum cakes.

are Saxons, proud descendants of Franconian ancestors, who have been settled in the city for 600 years. Despite this long separation from the homeland, closest connection with it has been maintained.

These outposts of their race early felt the influence of the Reformation in Germany, and Honterus, known as the Apostle of Transylvania, during the lifetime of Luther won converts to Protestanism in the great Black Church which looks down upon the square.

The present-day citizens of Brasov look not unlike German university students; no trace of centuries of battles with the heathen gleams in their spectacled eyes, and no frontiersman's freedom of motion betrays itself through their stiff-cut clothes. Blond they are and blue-eyed, but they are obliged to yield in freshness of complexion to their rustic cousins of near-by agricultural villages.

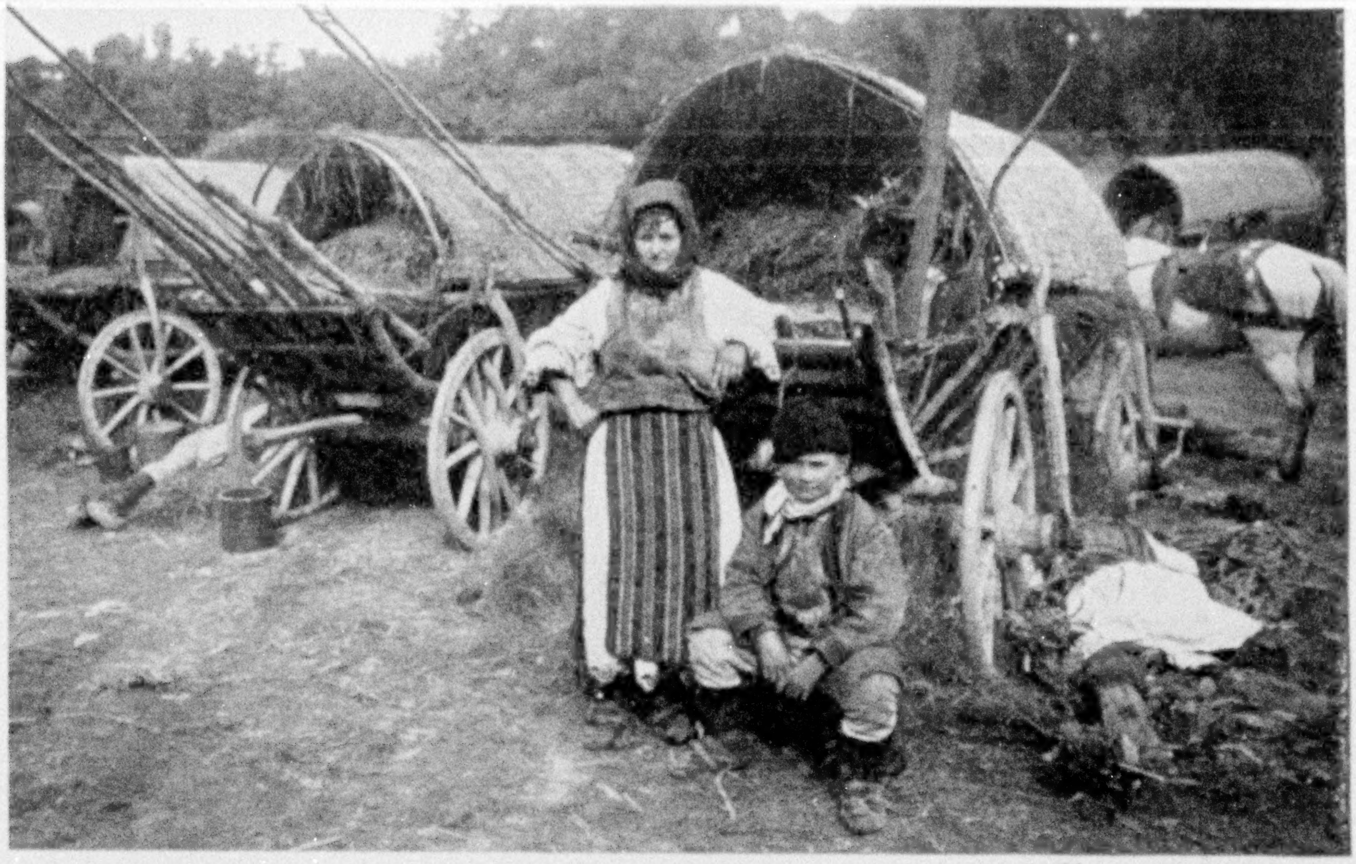
This prosperous farmer folk drive into town in springless carts, dressed in a national costume which has remained practically unchanged since they came from Franconia six centuries ago.

The men wear full-length, flaring, single-breasted coats of dark blue, heavily braided across the chest, with a small, flat, soft hat, which on festal occasions is decorated with two heavy tassels lying on the shoulders.

The everyday attire of the women is a tight bodice of dark color, flaring skirts, and many petticoats of another dark shade braided in a brilliant hue. If married they bind their hair so as to conceal every vestige of it in a silk handkerchief, on top of which is perched a sailor hat like the mode of the nineties in America.

On great holidays this costume is exchanged for heavy damask with a long white apron, while about the waist is clamped a silver-gilt belt with heavy bosses studded with glass or semi-precious stones, and ornaments of the same fine workmanship adorn the bodice and fasten the embroidered fillet binding the hair.

This silver-gilt work is the principal



Photograph by Erdelyi

THE PUREST RUMANIAN STOCK

These fruit-sellers were not always agriculturists. They are mountain folk from the vicinity of Alba Iulia, and for centuries they worked the Transylvanian gold mines and were very prosperous. When the Hungarians came into possession of the land and took over the mines the "Moti," as these people are called, took up fruit-growing and wood-carving. They never sell their products, but barter them for wheat, corn, and other necessities that they cannot grow. They represent probably the purest strain of Rumanian blood.

handicraft of the Saxon population and some fine specimens may be seen in the Museum opposite the Black Church, which dominates the town.

BLACK CHURCH HOUSES RARE ORIENTAL RUGS

This edifice derives its name from the fact that it was burned about 1689 and never properly scoured since. The result is both dour and impressive. It is a good example of fifteenth-century Gothic, without any tower.

The interior, though marred in the early zeal of the Reformation by the destruction of all the stained glass and the removal of images, is still a colorful sight, due to the superb collection of small oriental rugs which hang over the balconies, from the back of the choir stalls, and which decorate pulpit and chancel.

These woven prisms of the past owe their presence to the rivalry of the guilds at Brasov in the Middle Ages, when that city was the center of trade with Turkey coming over the Sinaia Pass. Each guild, desirous of outdoing its neighbor, hung its pews with the finest rugs obtainable.

The societies were long ago disbanded and the burghers are buried beneath the stone floor of the church, but these works of oriental hands still give color to a building made barren by the Reformation.

There are more than 200 pieces in this collection, and while many show signs of neglect, most of them are in excellent condition.

The chancel is lined with prayer rugs with ruby-red centers. The pulpit and pastor's seats are backed by the same type of rug with deep-blue center panels—specimens so rare that they are not described in any of the standard works on rugs. The balconies are hung with splendid specimens of Turkish and Persian carpets in small designs of rich color.

There can be little doubt that this church houses one of the finest collections of rugs in the world.

The old Saxon sacristan assured me with pride that nearly all of the museums in Europe had made offers for their choice of Ghiordes, Ladik, and Shiraz carpets, but the church had never considered parting with them. Moved by our praises of the collection, he unrolled several specimens on the floor of the sacristy and allowed us to admire their texture and to count the knots of the particularly fine ones.

The other architectural feature of the town is the castle which crowns a hill just north of the center—a fortress with picturesque walls built in 1553 by Count Arco to defend the city against the Voivode Peter of Wallachia and now used as a military school. The promenade along the terrace before the castle affords a magnificent view across the Burzen plain.

WHERE TEUTONIC KNIGHTS KEPT THE BORDER OF HEATHENESSE

With Brasov as a center, one may explore the Saxon and Szekler regions at the base of the mountains. Southward lies the Saxon town of Rasnov (Rosenau), over which towers the massive ruin of the Burgberg, now owned by the former Crown Prince Carol of Rumania.

There is no approach by road to this giant fortress, but a sharp climb brings one to what was a little city inclosed within the great walls of the castle, whose massive keep still dominates the plain.

This once populous village is now inhabited by a single farmer and his wife, who occupy the fortress where once a hundred Teutonic knights kept the border of heathenesse (see illustration, page 351).

Beyond Rasnov we continued into a narrowing valley toward the pass at Bran. Just where the mountain walls almost meet, a little knoll with the river and road curving sharply at its base is topped by the castle of Bran, a gift to the Queen of Rumania by the city corporation of Brasov (see page 326).

This, perhaps the most perfect fairy-story castle in the region, hangs above the little Rumanian village, intimate yet aloof. From its narrow windows one can see every movement in the village beneath. Every market wagon coming down from the pass must move practically around the castle, and one can readily imagine that such caravans of merchants as made use of this pass in the olden days paid heavy tribute to the lords of Dietrichstein, or Torcsvar, as it was then called.

The castle's five towers are grouped around a small court, in whose center a well pierces the hill for 150 feet to the water, on the level of the stream in the valley. There are no interior corridors, but carved wooden galleries clinging to the ramparts lead from tower to tower on different levels.

RUMANIA'S YOUNGEST PRINCESS OCCUPIES A FAIRY-TALE TOWER

According to the present arrangement, the Queen has her apartments in one tower, while the Princess Ileana occupies the round tower overhanging the roadway, reminiscent of the plight of all fairy-tale princesses, within waving distance of the world.

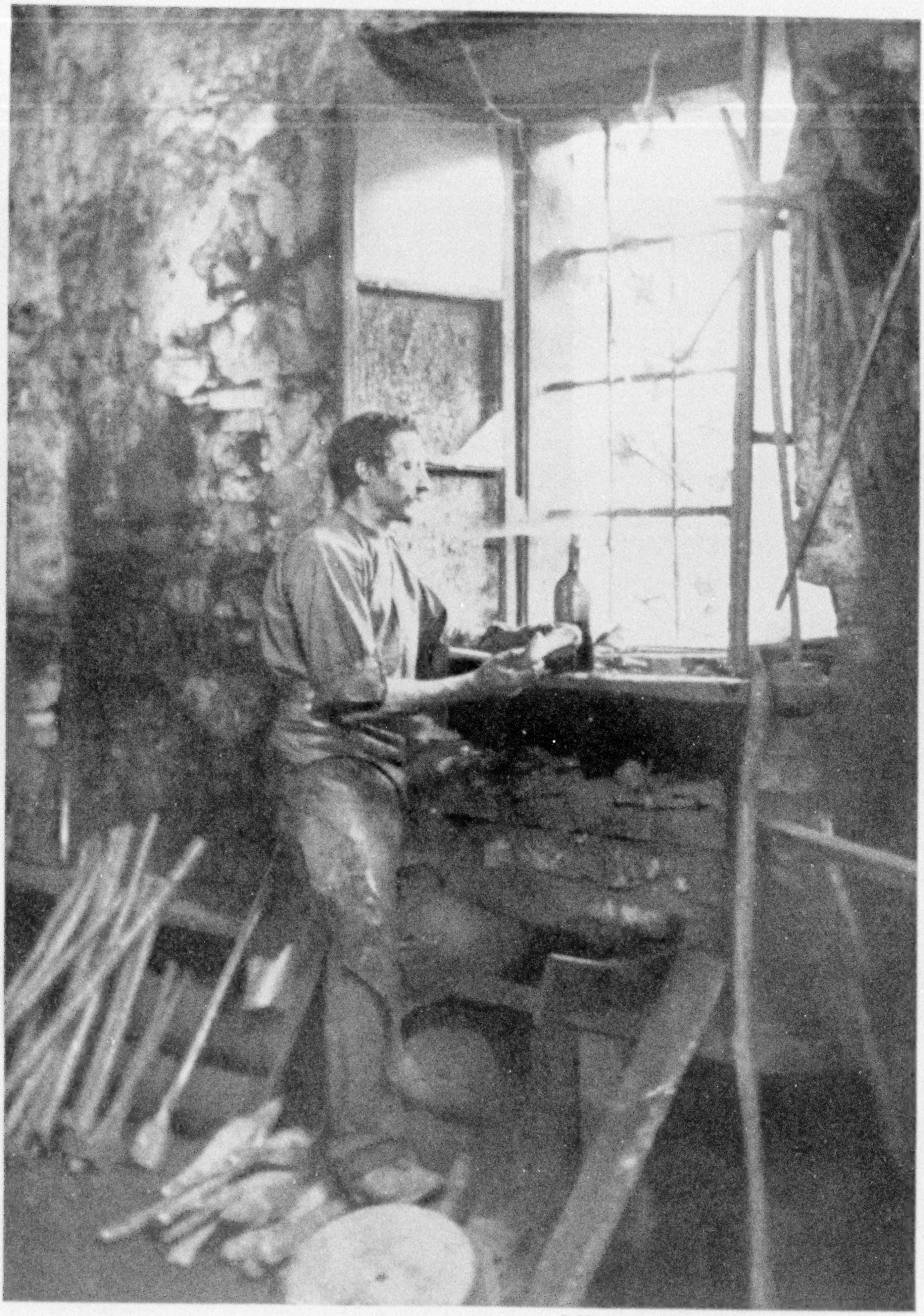
The castle has been carefully furnished with copies of medieval tables and chairs and is hung with colorful hand-woven materials of Rumanian and Hungarian designs. The floors are strewn with bear-skin rugs, trophies from the neighboring mountains.

As a contrast to this simplicity, an occasional piece of glittering oriental brocade or a fine Persian rug recalls the fact that the castle is situated on one of the trade routes to the East, and that even in the Middle Ages such contrasts must have existed in the habitation of the lords of Dietrichstein, who built it in the thirteenth century.

North from Brasov stretches the road to Bistrita, the second of the seven castle towns to be visited in a motor circuit of Transylvania.

The first portion of the trip skirts fertile plains largely given over to wheat cultivation by Saxons and Szeklers, who come out from the little towns to their fields every morning, leaving the villages deserted. They return at evenfall in picturesque procession — young men, fair-faced and strong; girls and women, ruddy from toil, with rakes and hoes over their shoulders; and a lumbering line of sleek cattle and waddling geese.

One of the finest specimens of fortified church in the whole plain is to be found at Toarcla (Prejmer, Tartlau), where, in olden days, upon hearing an alarm of a Turkish raid, the whole population could gather, for the ramparts about the church are formed partially of dwelling houses



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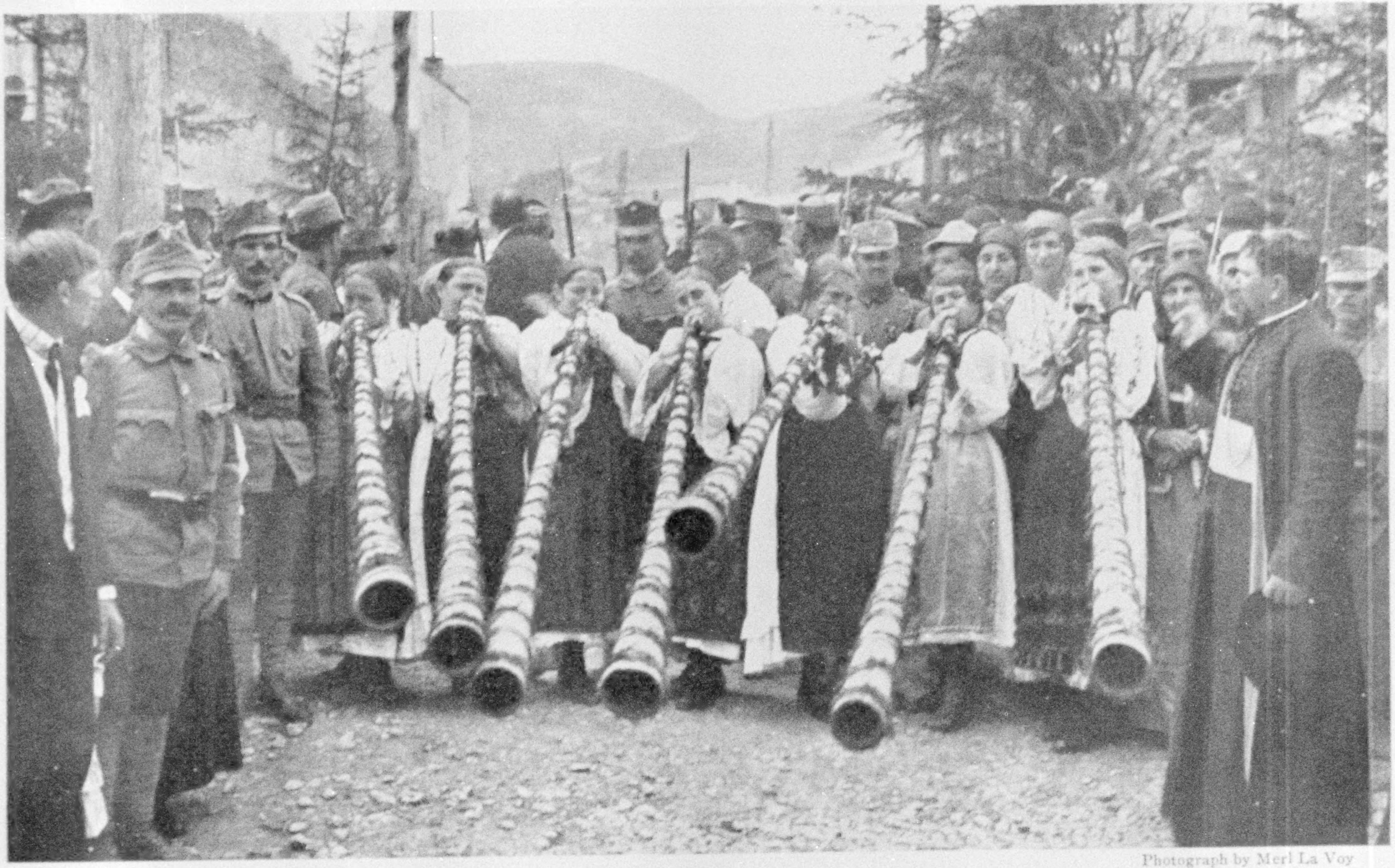
A TRANSYLVANIAN TYPE OF VILLAGE SMITHY

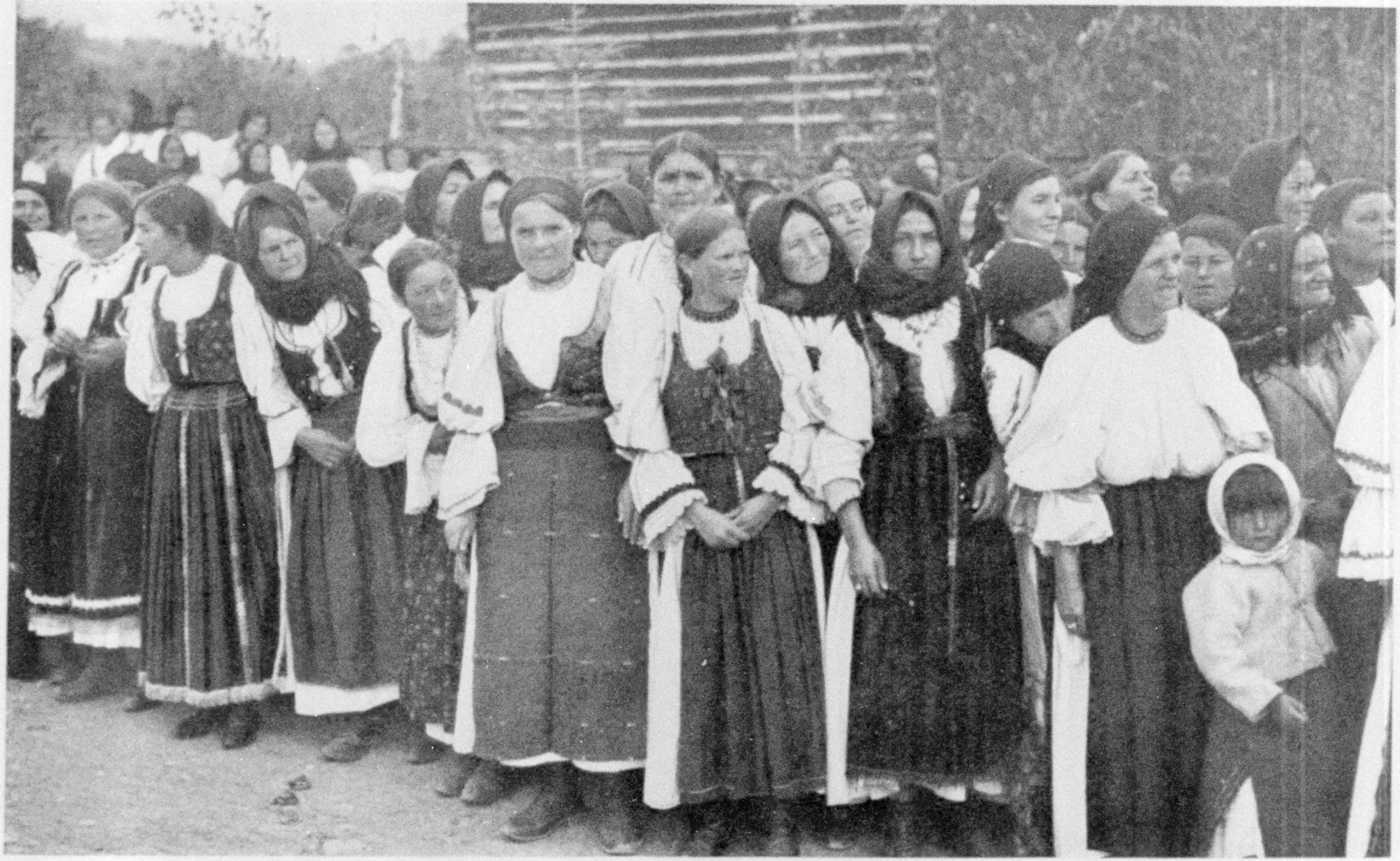
This Saxon blacksmith of Sibiu (Hermannstadt) combines the functions of a smith and wheelwright, and in a locality where automobiles are scarce and horses still hold their own he does a thriving business.



Photograph by Merl La Voy

HORNS THAT HAVE BEEN BLOWN THROUGH THE CENTURIES

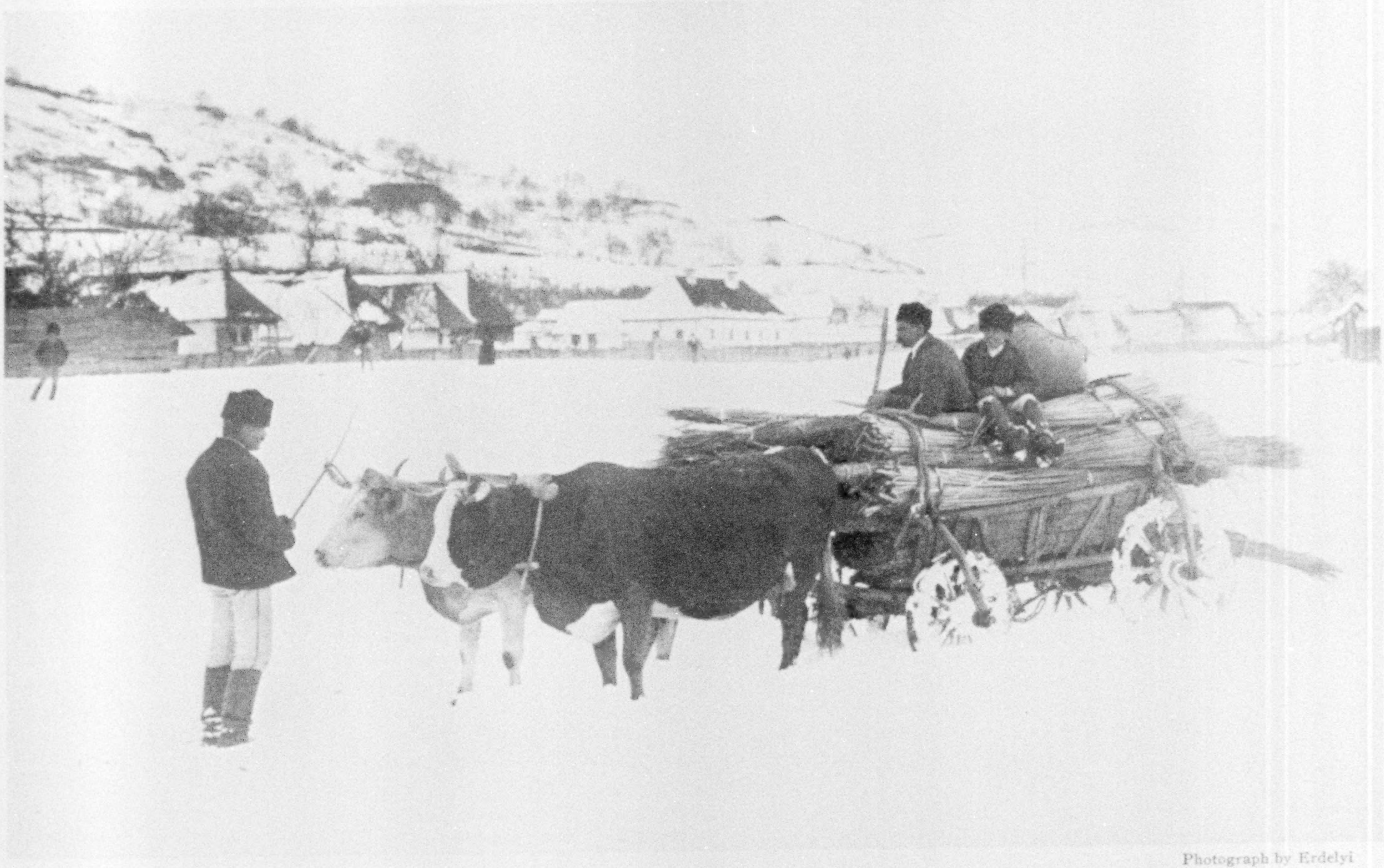
These gigantic instruments are now used only on fête days, but in times past, when Transylvania was one of Christendom's outposts against the Turk, they were blown to warn the countryside of the approach of invaders from the East. The horns are made in two sections, then bound together, and they cannot be blown until soaked in water and allowed to swell tight.



Photograph by Merl La Voy

WAITING FOR THE PARADE

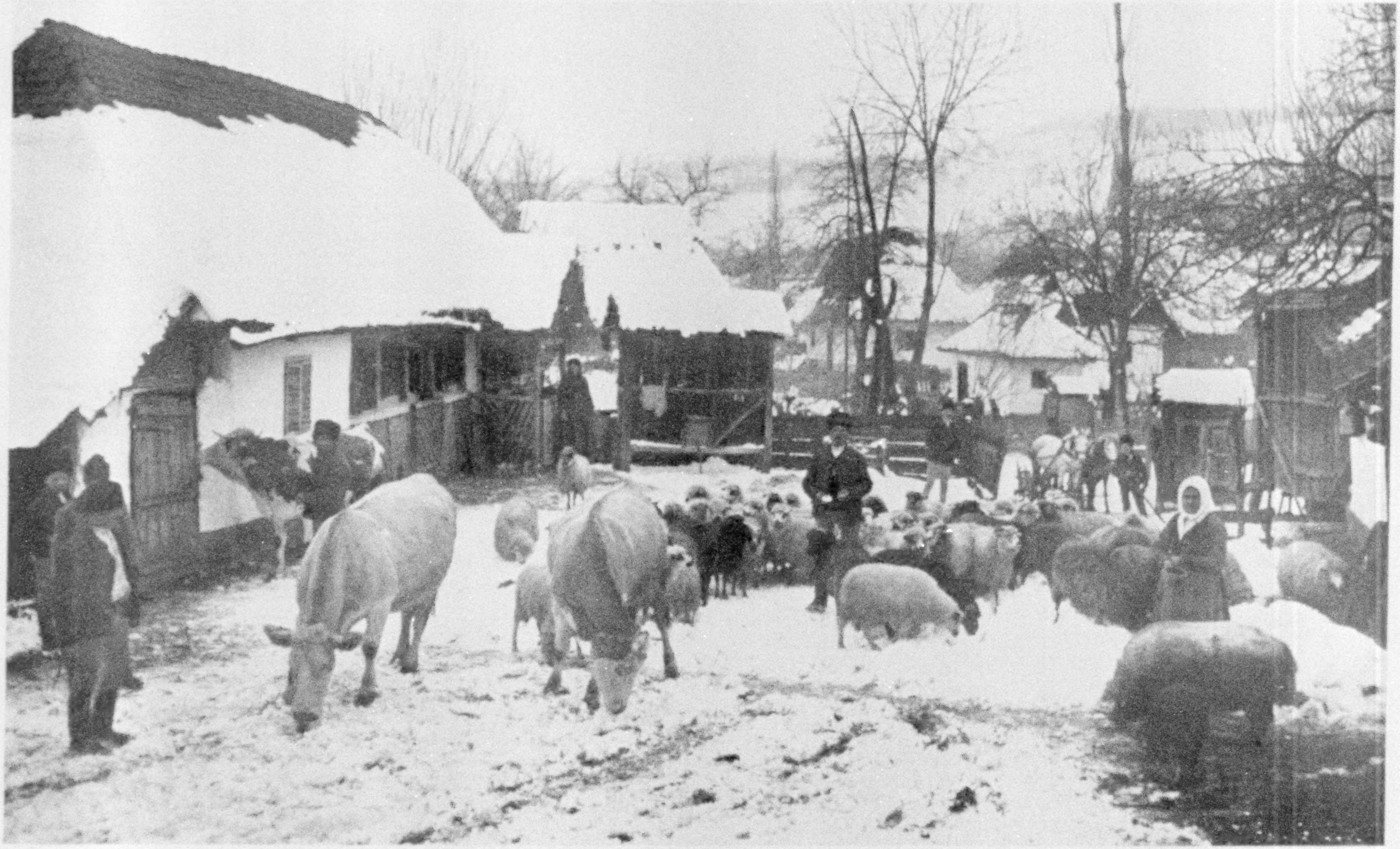
While for the most part Rumanian costumes are riots of color, the traveler occasionally encounters villages where for many years nothing but black and white have been worn, as in the case of these peasants of a town in the Campina district of Transylvania (see, also, page 324).



Photograph by Erdelyi

A WAGONLOAD OF REEDS FOR THE VILLAGE BASKET WEAVERS

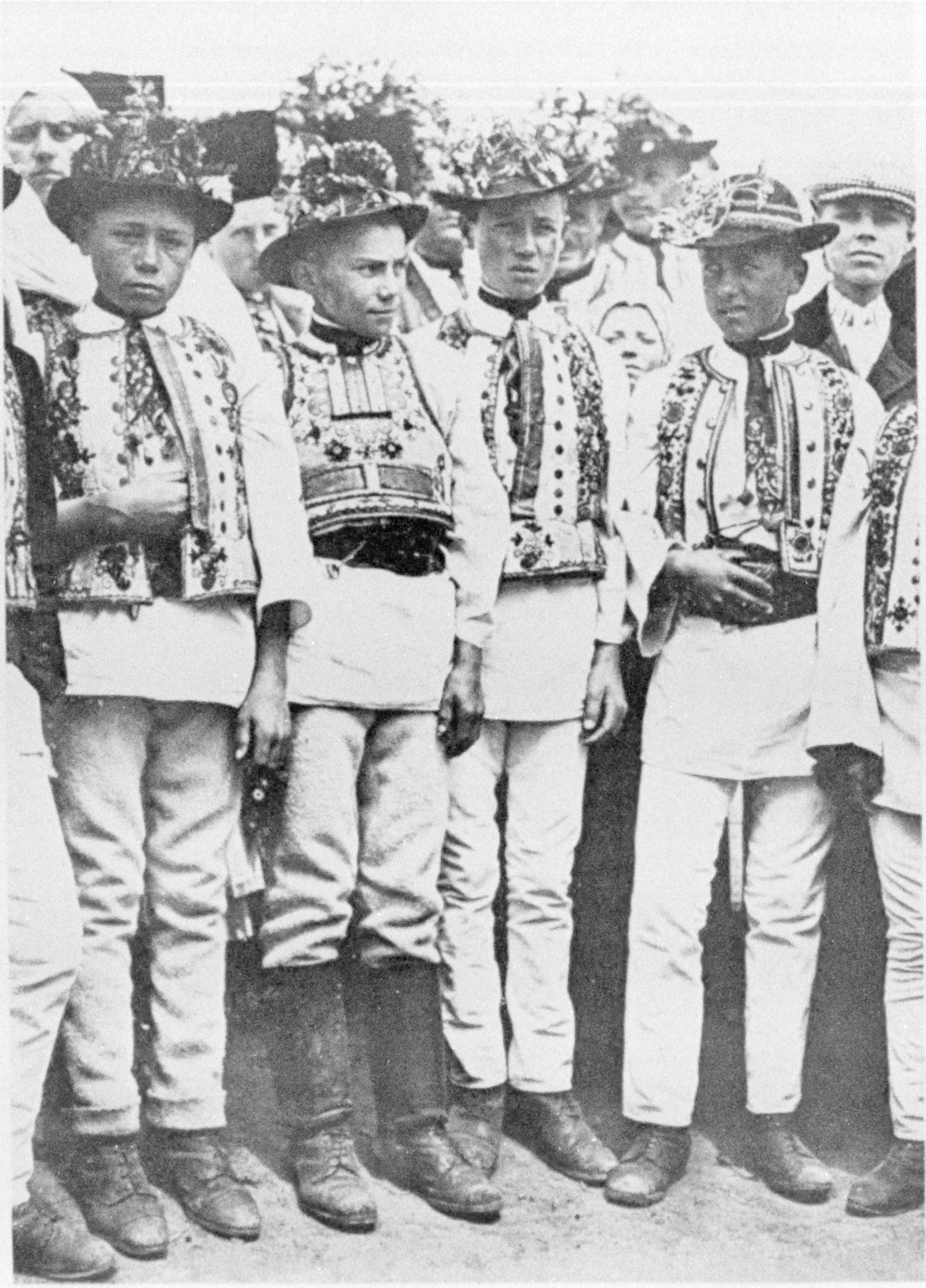
For centuries the Rumanians in Transylvania had to make practically everything they used. Prior to 1848 the peasants were held in serfdom, and the habit of supplying their own wants became so strong that even now most of the things they use are made at home. Everything worn by these men is homemade, the coats being of a sort of felt, the hats of sheepskin, the trousers of homespun wool, and the boots are made by the village cobbler from domestic cowhide. The load of reeds will soon be converted into baskets.



Photograph by Erdelyi

PASTORAL WEALTH IN RAGMANI

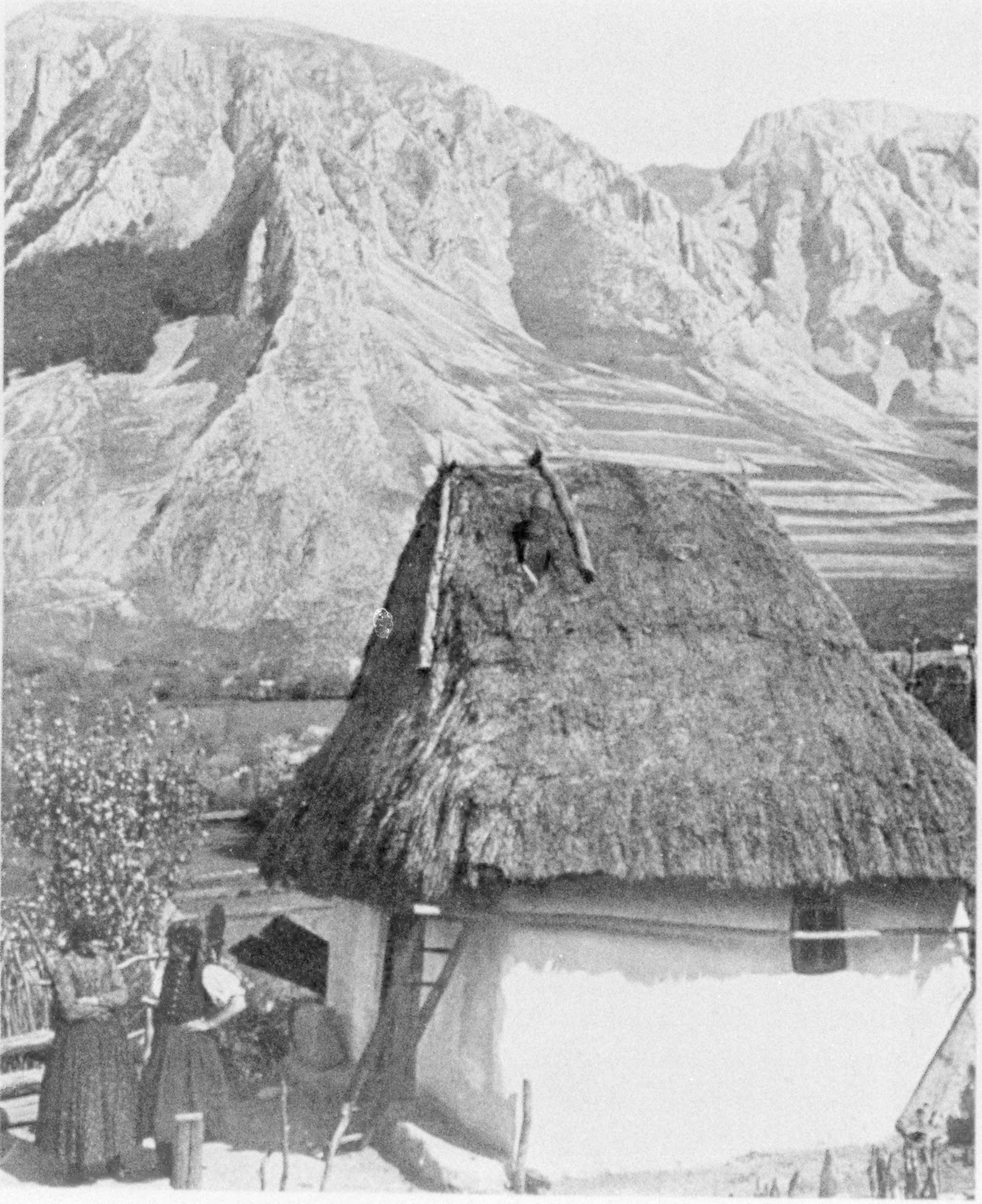
In Rumania each village has a community shepherd, a cowherd, and a swineherd. Early each morning these men blow their horns, and the villagers lead out their stock and turn it over to the herdsmen. The animals are tended all day on community pasture lands and brought safely back at night. Each cow, sheep, and pig knows its own home and leaves the herd upon reaching its destination.



Photograph by Merl La Voy

SAXON BOYS WHOSE FOREFATHERS CAME TO TRANSYLVANIA CENTURIES AGO

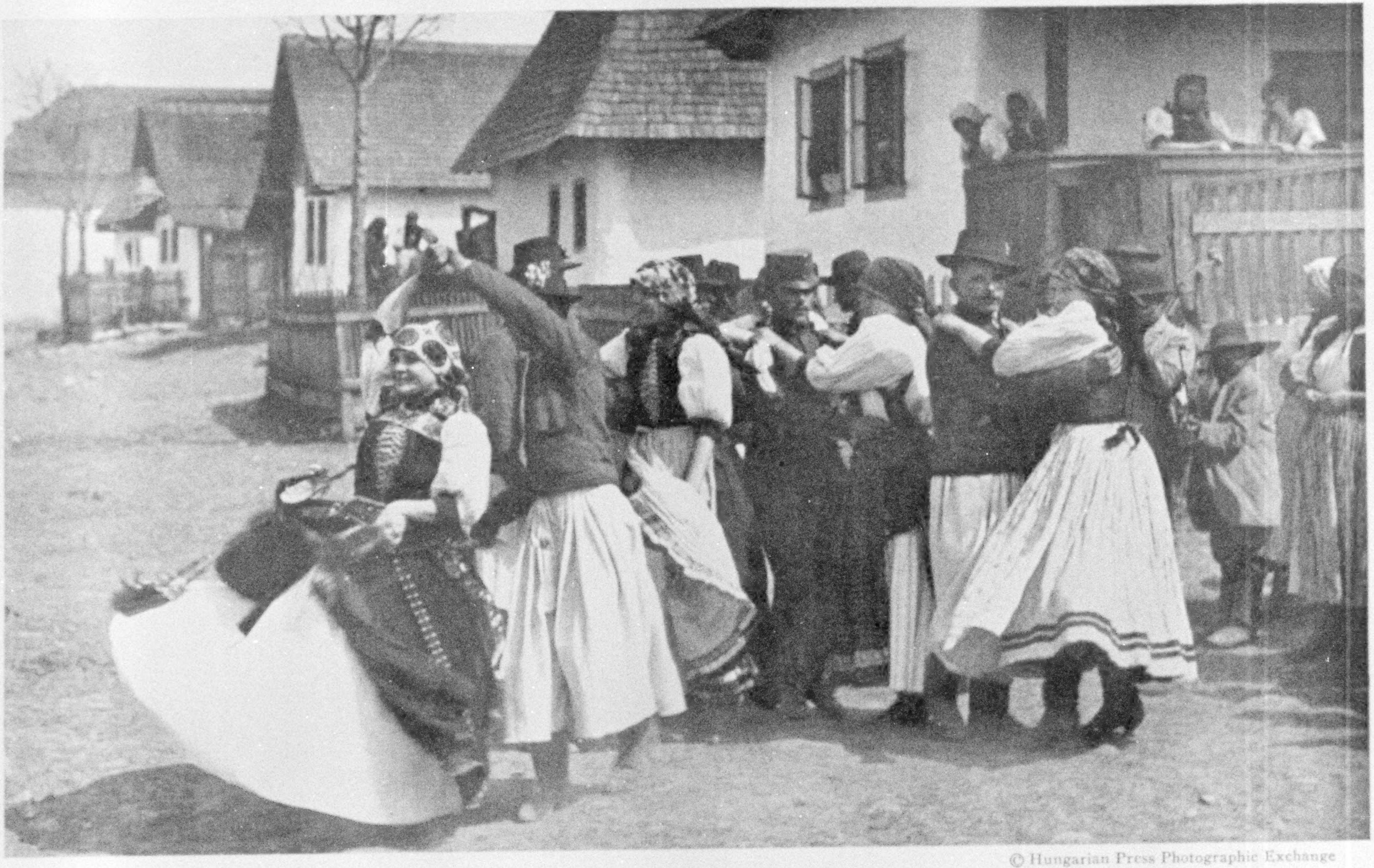
The Germans and Rumanians have intermarried little in Transylvania, and both peoples have retained their racial purity. Some of the customs of each, however, have felt the influence of the other. Especially is this true of costumes, where the Rumanian influence has been particularly strong. These boys wear such clothes on Sundays and holidays only.



Photograph by Erdelyi

A COTTAGE IN THE CARPATHIANS

Such relics of the days when the Transylvanian peasant's lot was almost as hard as that of the Russian serf are now being replaced by more commodious homes. This is a cottage in Trascau, one of the "Szekler," or Hungarian, colonist villages established in Transylvania by the kings of Hungary some 700 years ago (see, also, text, page 319).



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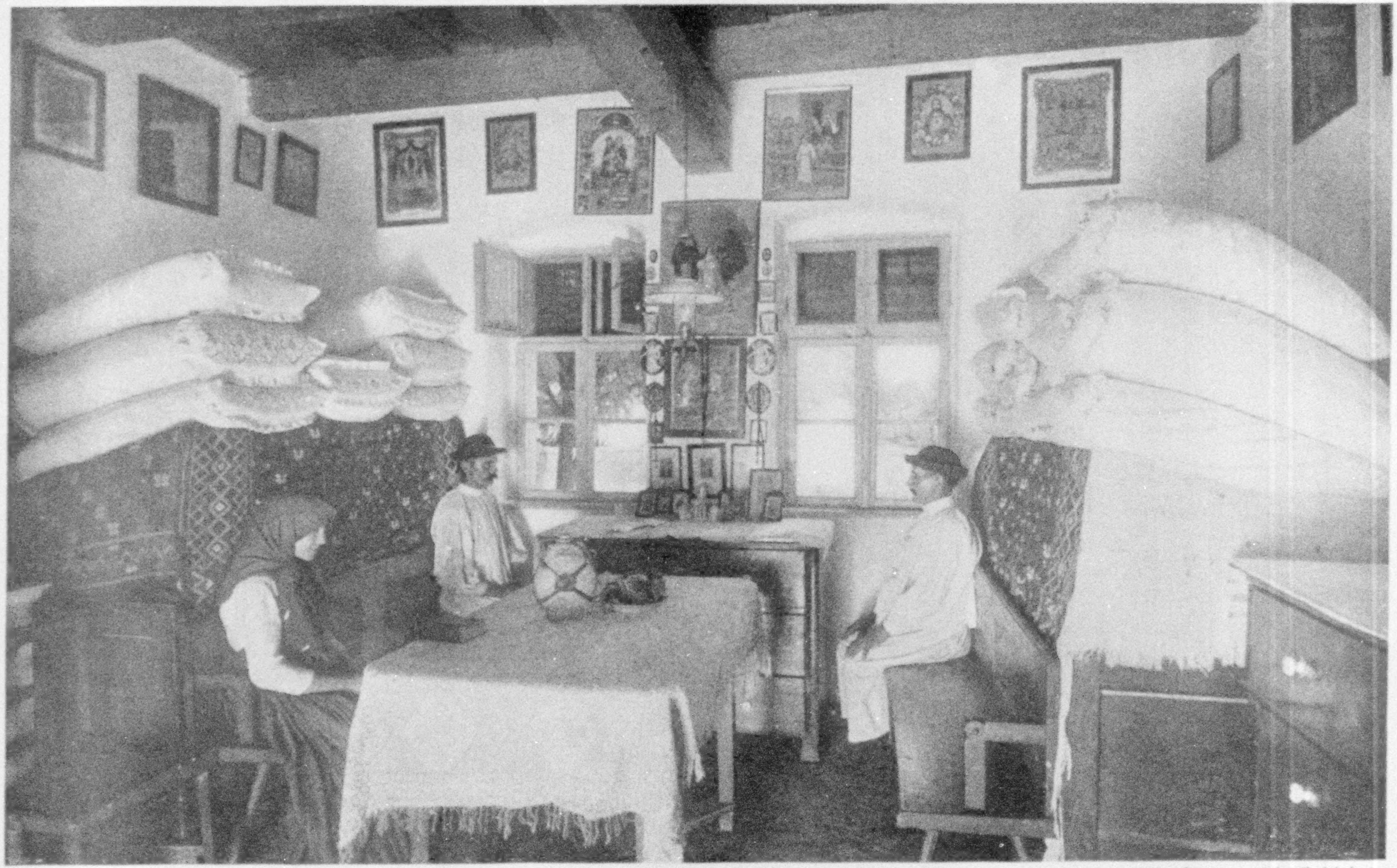
THE CSÁRDÁS, HUNGARIAN FOLK DANCE

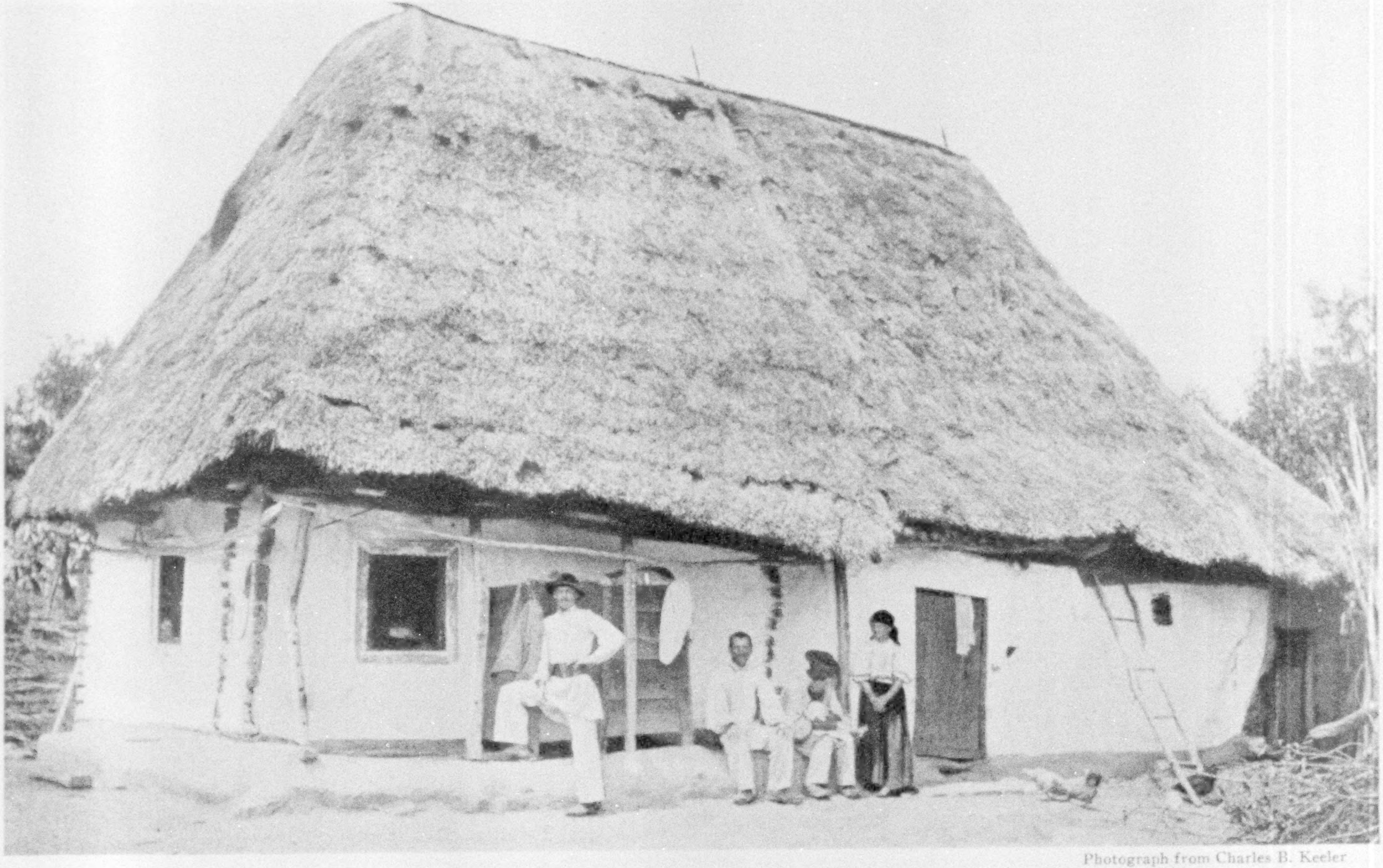
The Rumanian peasant, whether of Wallachian, Magyar, or Saxon descent, is fond of dancing. These villagers of Kalotaszeg are of comparatively recent Hungarian origin. Nearly every Transylvanian home has its little fenced plot, projecting in front, dedicated to flowers.



Photograph by Erdelyi

THE GUEST ROOM IN A PEASANT HOME: VINGA, RUMANIA

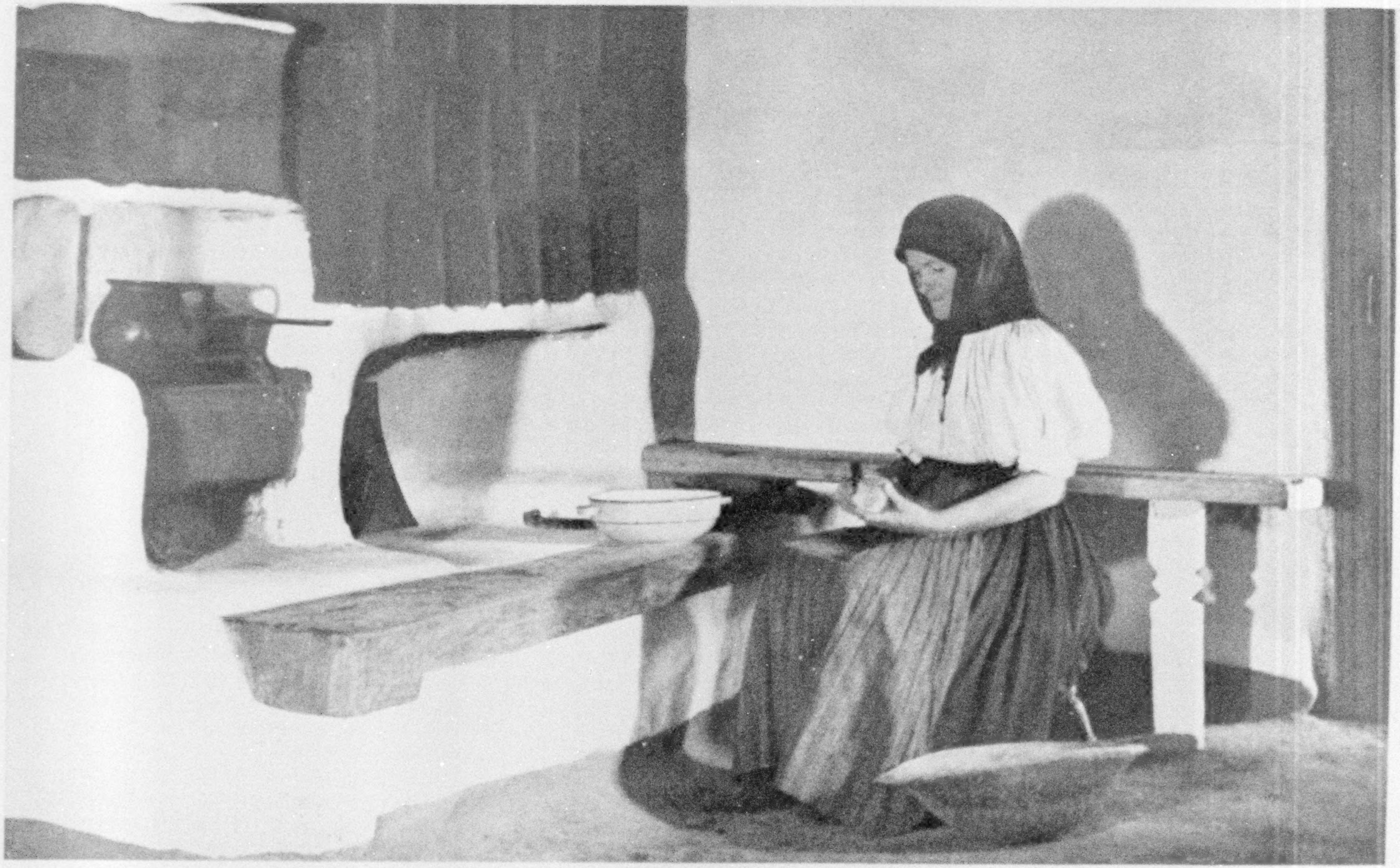
The beds, piled high with gigantic feather pillows, are mainly for show and are not used except on very special occasions, such as the visit of some distinguished person. On the walls are numerous ikons, or holy pictures, along with a few family portraits.



Photograph from Charles B. Keeler

THIS TYPE OF PEASANT HOME IS DISAPPEARING IN TRANSYLVANIA AND IS BEING REPLACED BY STUCCO HOUSES

The steep, high roof serves a dual purpose, forming a storeroom within and preventing snow from accumulating on it in winter. The foundation of hard-packed earth serves as a floor inside. The older boys of a family never sleep indoors in summer time, but use a cot on the porch or in the yard. The man standing is in characteristic Rumanian peasant costume—white homespun linen and broad, carved leather belt.



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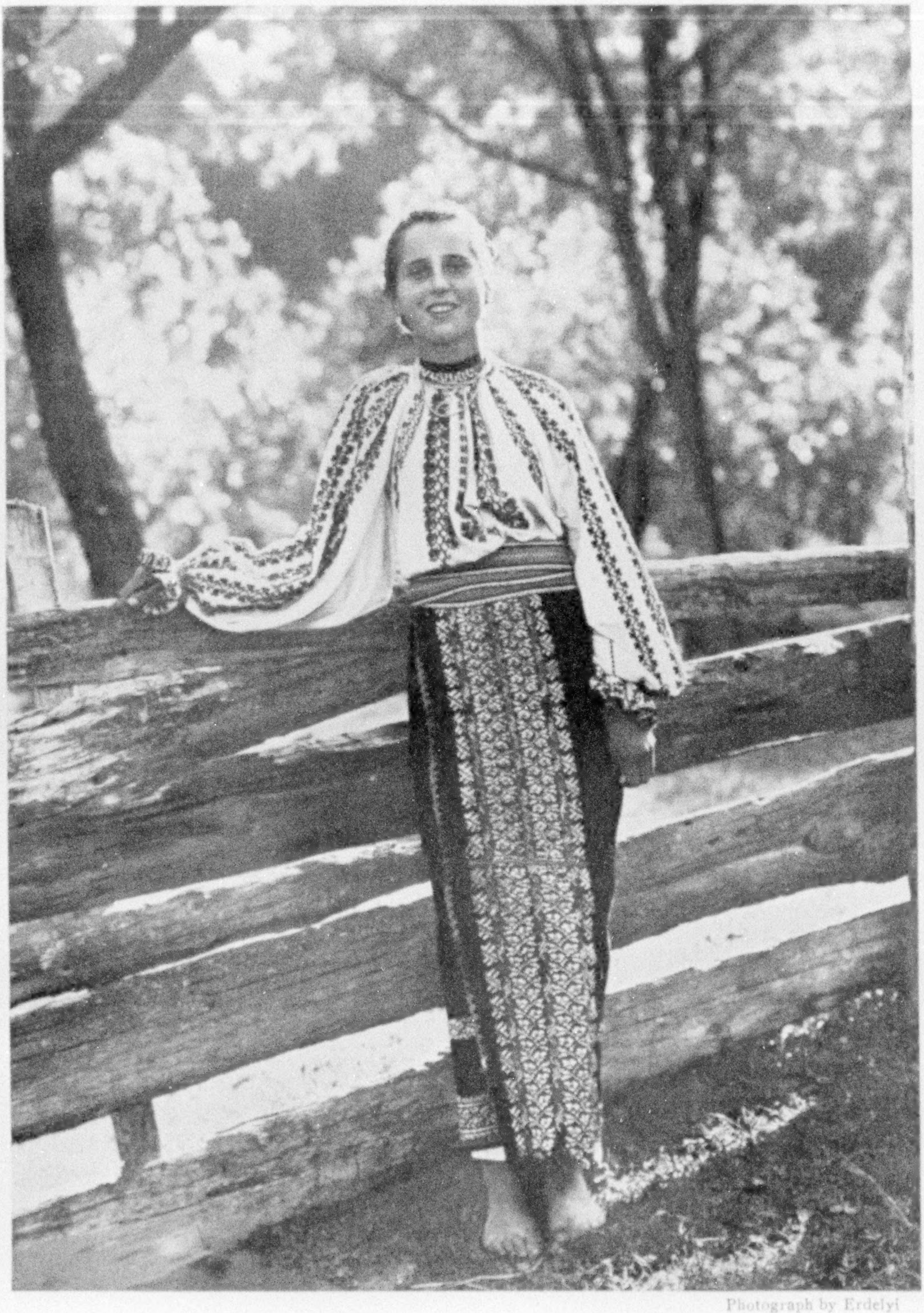
BEFORE THE GREAT CLAY KITCHEN STOVE, CENTER OF THE TRANSYLVANIAN PEASANT HOME

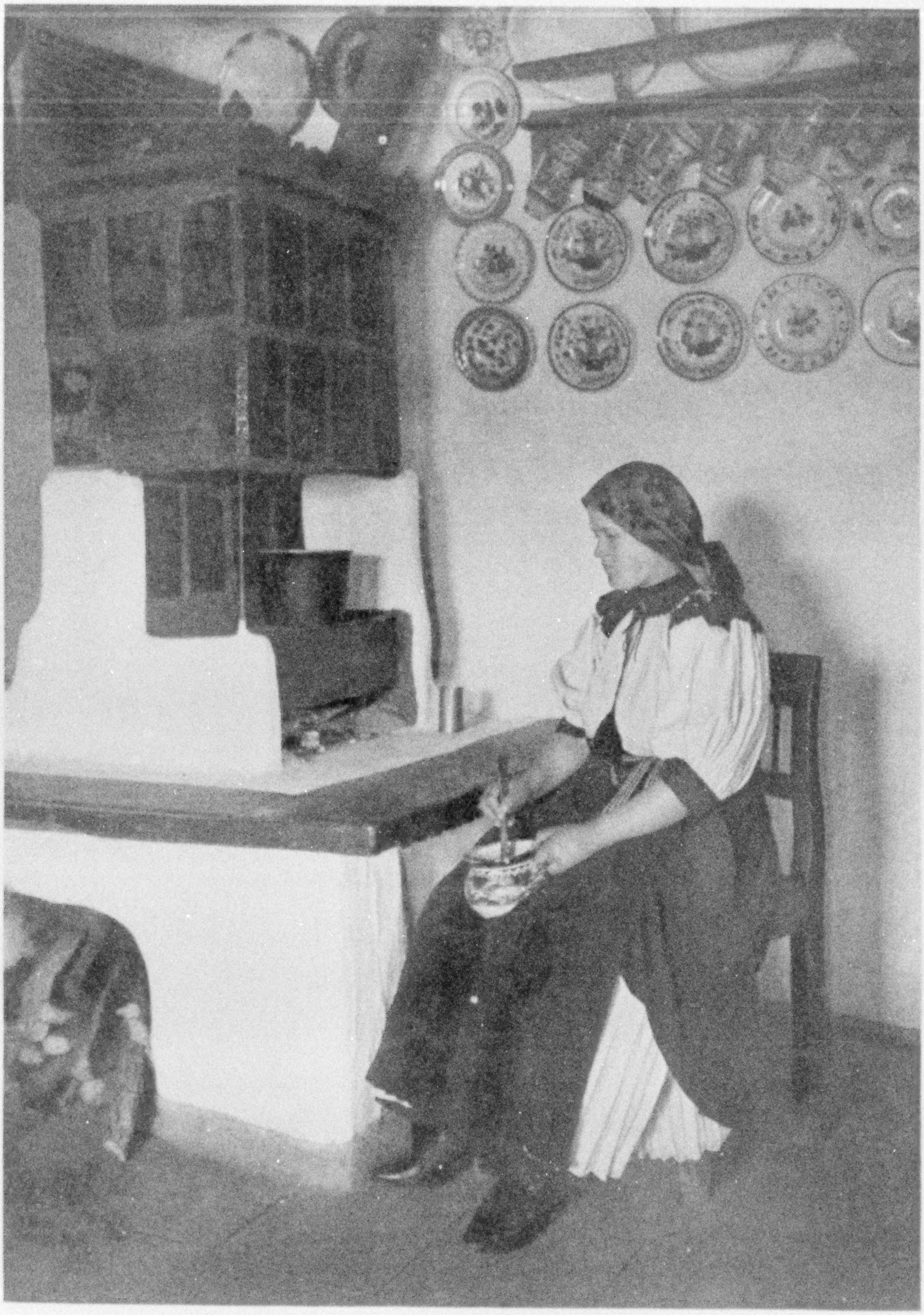
It is located between the guest chamber (see page 341) and the family living and sleeping room. If the family is a large one, beds sometimes have to be placed in the kitchen.



Photograph by Erdelyi

WORTHY OF A LAND OF CASTLES AND ROMANCE

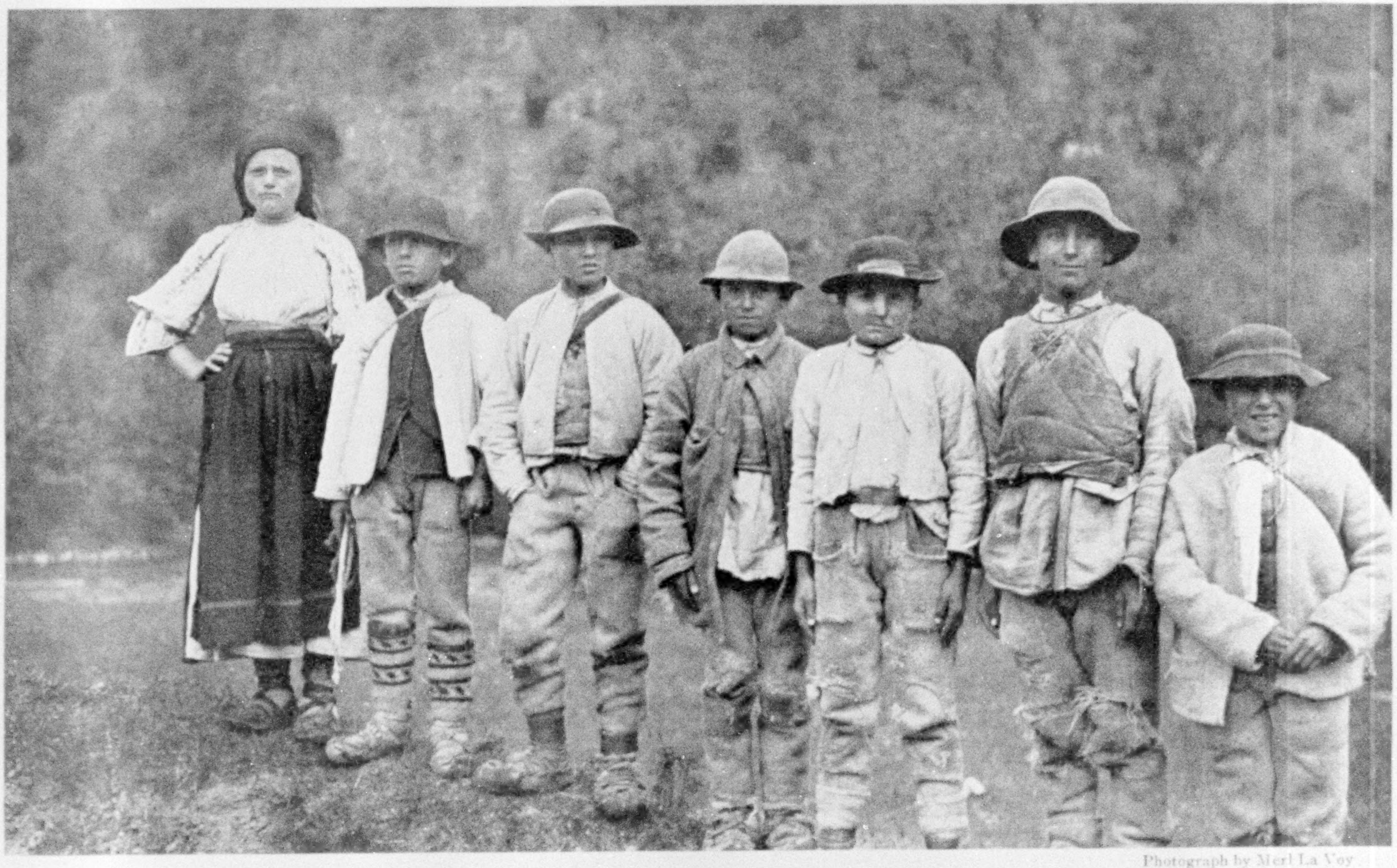
Rumanian women are famous for their hand-embroidery, and villages vie with each other in the production of elaborate skirts and blouses. Each individual artist has her own designs and patterns, and it is considered a disgrace to copy another's work.



Photograph by Erdelyi

COME INTO THE KITCHEN

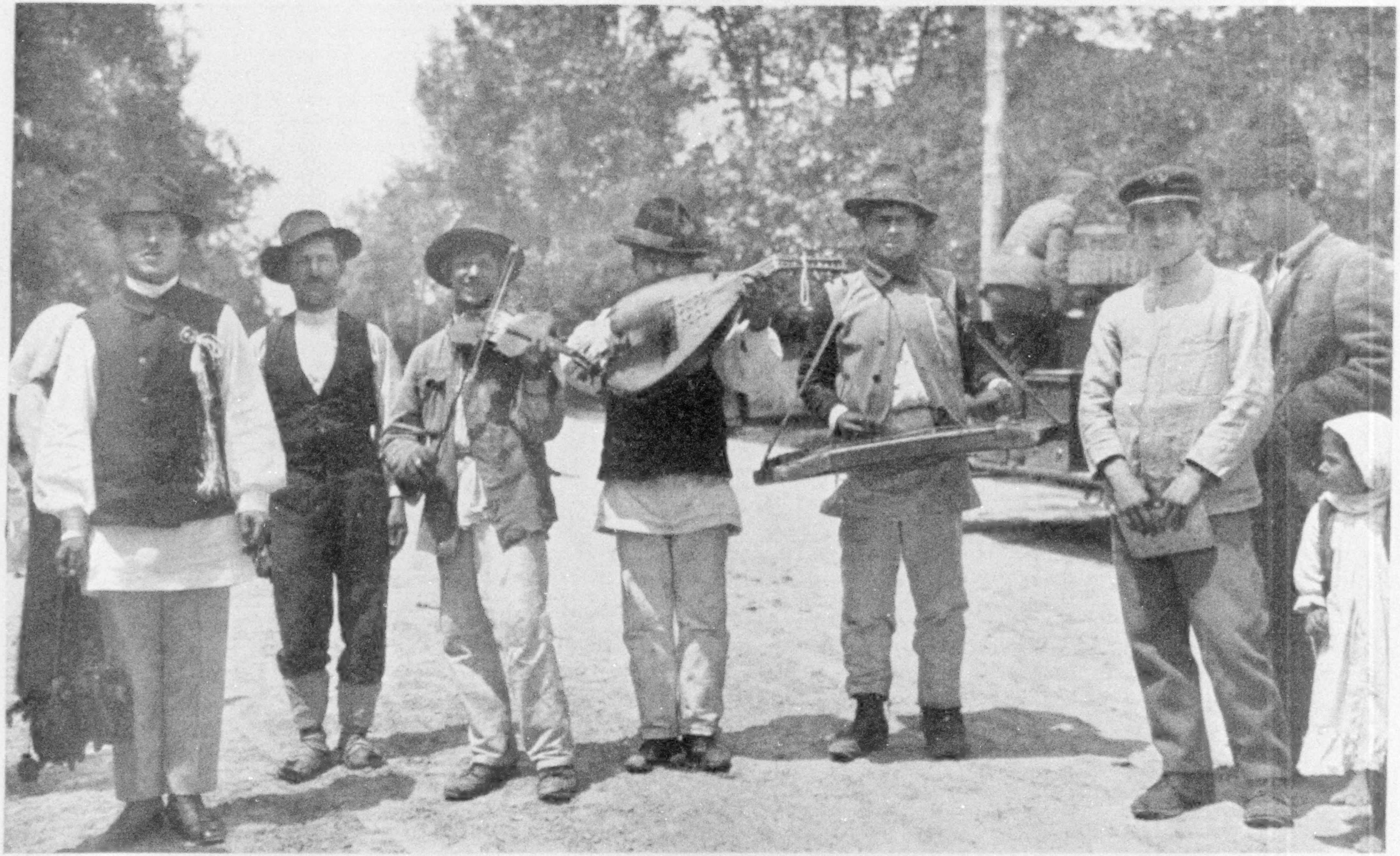
In the Rumanian clay stove the fire is built underneath and fed from an opening in the side. The stove and the plates and flagons on the wall above it are products of native industry (see, also, illustration, page 343).



Photograph by Merl La Voy

PRESERVERS OF RUMANIAN MUSIC AND FOLKLORE

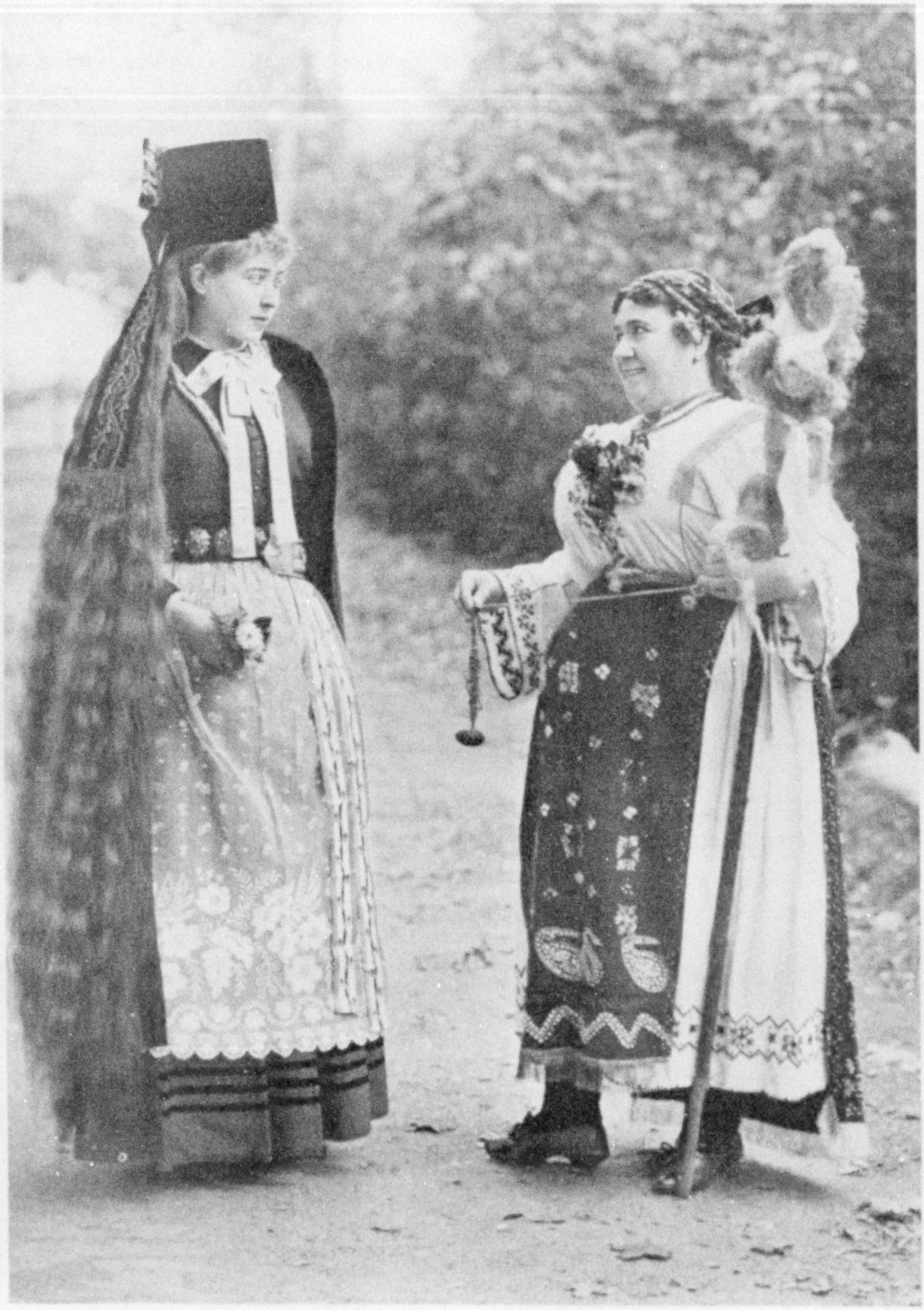
Each village shepherd of Transylvania usually has several youthful assistants, who, like David of old, have opportunity while tending flocks to develop their natural taste for music and poetry. Much of the country's rich folklore and many of its native airs have been preserved by such minstrels.



Photograph by Merl La Voy

PROFESSIONAL LOVE-MAKERS

When a young man goes to call on his sweetheart in Rumania he generally takes an orchestra with him to tell his story in song. Nearly every village has one such orchestra, whose services are always at the command of any young man who can afford to "pay the fiddler." The Romeo of this party is on the extreme left, distinguished by the bow of ribbon over his heart.



Photograph by Erdelyi

THE FAIR AND THE FRIVOLOUS

The shy Saxonian of Brasov is not more proud of her glory of golden hair than of her lace apron, the product of many hours of patient, skillful labor, while her jovial, rotund companion is equally conscious of the beauty of her embroidered double apron, worn in front and behind—a custom peculiar to Rumanians.

and there is a well within the walls. In the center the great stone church could serve as a barracks, council chamber, and sanctuary, all in one.

North from Toarcla forests commence again, and in the narrowing valley one finds the pine-shaded dilapidation of the bathing establishment at Tusnad, once well known in the region for its curative waters. We passed the night at another small mountain resort called Toplita, charming, though deserted.

THE TRANSYLVANIAN LANGUAGE SITUATION IS COMPLEX

As we started out the next morning for the town of Bistrita we had our first lesson in the complexity of the language situation in Transylvania.* We encountered a woodsman on the road and, as we were speaking German, asked the way to Sächsisch-Regen, the first stop en route. Meeting with no response, we transferred the interrogation to the chauffeur, who inquired in Rumanian, but used the same form for the name of the town. The woodsman replied that he did not know the route.

A few miles farther on we repeated our inquiries at a small farmhouse by the roadside, but were unable to obtain any information, as Hungarian was the sole language of the inhabitants. Passing through a small village, we finally obtained the information desired from the Saxon postmaster.

Our difficulties were caused by the fact that we should have altered the name in its Rumanian, Hungarian, and German forms in accordance with the speech of the persons addressed, as each nationality clings to its own version of place names (see text, page 319).

After passing through Reghinul Sasesc, the goal of our inquiries, a small Saxon town without unusual feature, we arrived toward nightfall at Bistrita, about 200 miles from Brasov and situated in the midst of a mountain-girdled plain, the northernmost Saxon outpost. It clusters about an ancient Protestant church, not too happily restored in the sixteenth century.

This was the first stop of the caravans coming over the Buzeu Pass, and the church contains a collection of rugs similar, but inferior, to that at Brasov. The ruins of the ancient castle of Hunyadi Janos crown the hill which commands the roadway to the pass, about three and a half miles from the town.

CLUJ IS THE SHRINE OF TRANSYLVANIAN MAGYARISM

Through beautiful mountain scenery the route continues via Dej 50 miles, to Cluj, center of Transylvania historic culture and the stronghold of Magyar sentiment. Here, before the World War, the Transylvanian aristocracy maintained palaces and held a sort of reunion in the autumn and spring between the isolation of their remote castles and the metropolitan atmosphere of Budapest.

Here, too, the best youth of the region attended the university, which maintained a high reputation in the Dual Monarchy and which is now rated second in Rumania as to faculty and perhaps first in library and equipment.

Although Cluj is the shrine of Magyarism in Transylvania, its native hero, Matthias Corvinus, king of Hungary from 1458 to 1490, is, nevertheless, claimed, and with reason, by the Rumanians as one of themselves. He has long been celebrated in their history under the name of Matieu Corvin.

To his Wallachian connection through his grandfather Vogh, who owned a small holding called Hunyad and who married a Hungarian, this son of Hunyadi Janos owes the fact that his equestrian figure, with the hawklike face glowering in pseudo-classic garb from an imposing pedestal in front of the Cathedral of St. Michael, is the sole relic in Transylvania of the centuries of Hungarian dominion.

RUMANIAN RULERS CROWNED IN ALBA IULIA'S CITADEL

En route south from Cluj to the fourth of the seven towns, Sebesul Sasesc, we passed through its more important neighbor, Alba Iulia (Gyula Fehervar, Karlsburg), whose imposing citadel I first visited in October, 1922, to attend the coronation of the King and Queen of Rumania.

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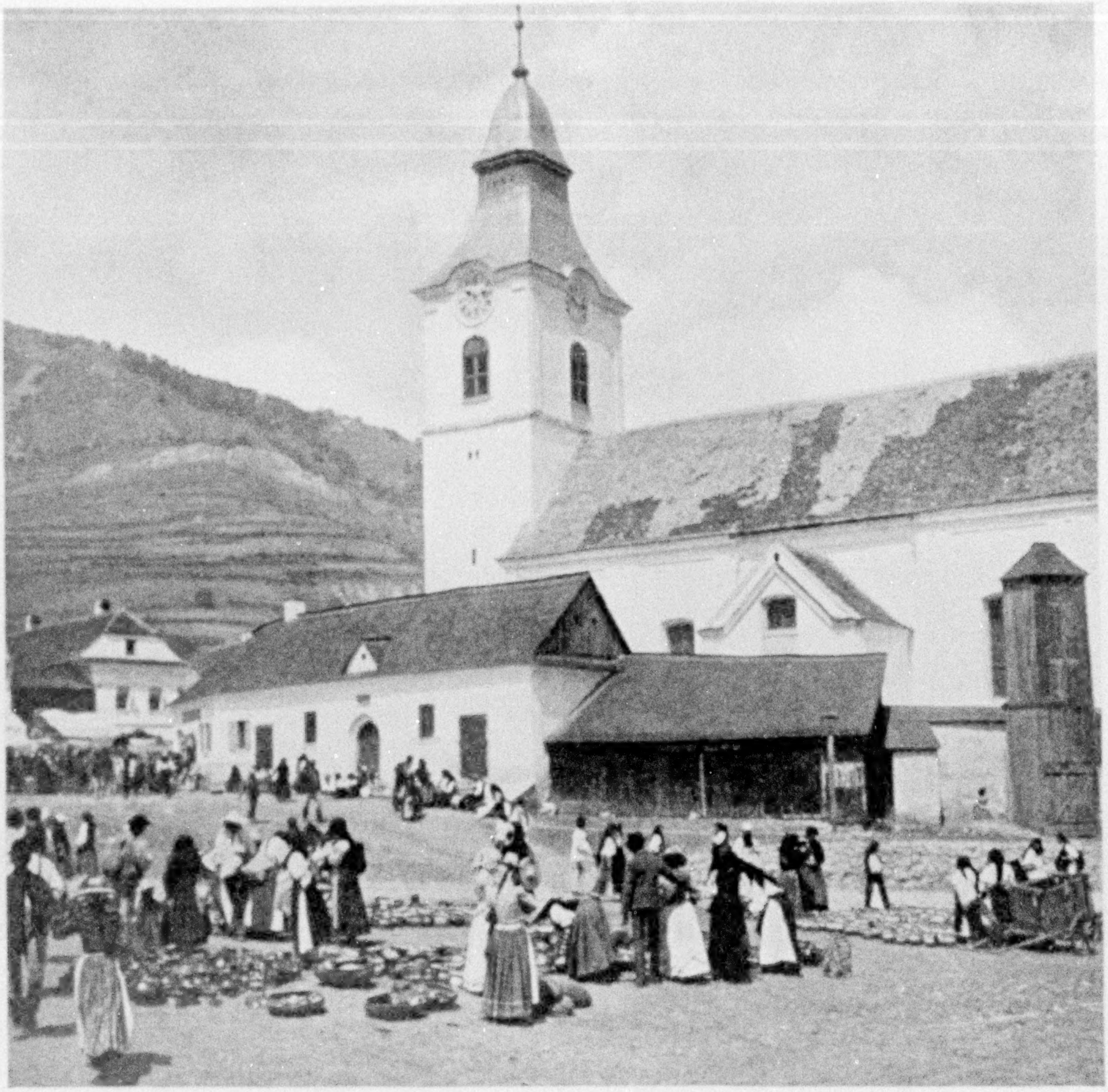
* See, also, "The Battle-line of Languages in Western Europe," in the NATIONAL GEOGRAPHIC MAGAZINE for February, 1923.



Photograph by Erdelyi

THE MARKET PLACE IN TRASCAU

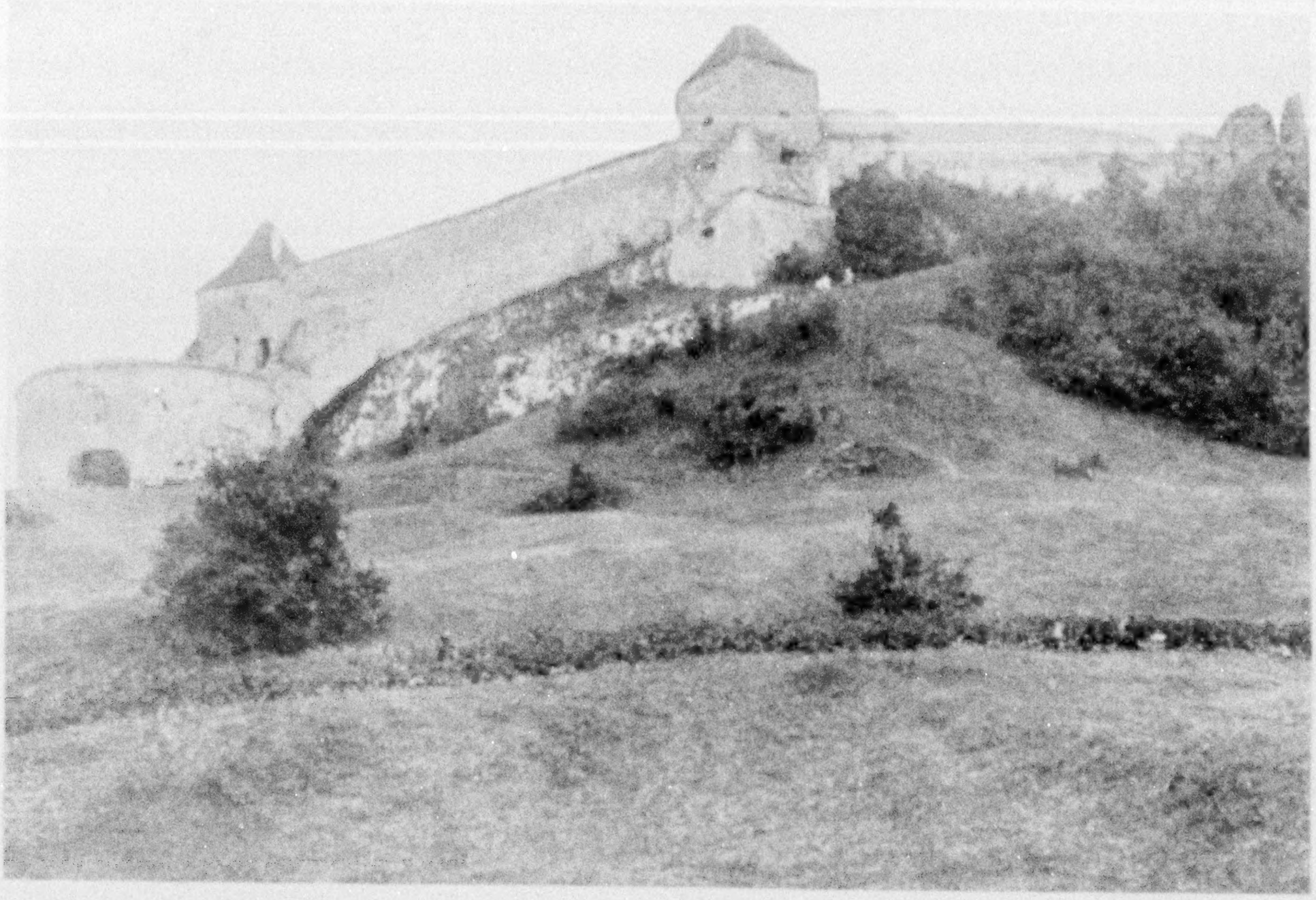
The Romanesque Cathedral of St. Michael, where Hunyadi Janos is buried, crowns the fortress hill, approached across three moats through three heavily carved archways. The ancient church is now flanked by a beautiful but incongruous coronation church in the Rumanian style (see page 325). It was built especially for the celebration of the union of Transylvania with Rumania, on the site where Michael the Brave was crowned as ruler over a united Transylvania, Wallachia, and Moldavia.

The memory of the three queens of that colorful pageant, like "Boris Godonov" done seriously, will always remain with me.

There is little to cause one to linger at Sebesul Sasesc, except, perhaps, to taste the excellent wine from near-by hills and to view the church, a heavy and not too successful mixture of Gothic and Romanesque. There are few traces of the ancient fortifications and the town is like a village asleep in a fairy tale, its 8,000 inhabitants seemingly invisible as one passes through at the noon hour.

TRANSYLVANIA'S OLDEST SETTLEMENT HAS GERMANIC FLAVOR

Thence to Sibiu is a run of about 40 miles, through a fertile and thickly settled plain, where the fields show heavy crops of wheat and maize. Sibiu is perhaps the oldest settlement in Transylvania, being identified with Cibinium, a Roman town established in the time of Trajan, when Transylvania was considered a kind



Photograph by J. Theodore Marriner

IN THIS OLD SAXON STRONGHOLD AT RASNOV A HUNDRED KNIGHTS ONCE HELD THE BORDER AGAINST THE MOHAMMEDANS (SEE TEXT, PAGE 332)

of El Dorado, from which came much of the gold used in Rome.

Many of the veins worked at that time still produce gold, and more than $14,000,000 worth was mined in Transylvania in 1921, including the pale gold from which was made the medieval crown for the coronation of the Queen.

But Sibiu's Roman ruins have been completely superseded by medieval walls, towers, and palaces. It is a town built on a gigantic plan, its wide spaces, towers, moats, squares, cathedrals, and palaces all being designed for nonexistent crowds. Its 30,000 inhabitants might easily be accommodated in a quarter of the space which the town occupies.

Sibiu seems to have been conceived as a setting for a Wagnerian opera, but neither the loudest tenor nor the most discordant cymbals could arouse the echoes.

SIBIU HAS MANY GUIDEBOOK SIGHTS

Sibiu remains to-day more Saxon than Saxony, and neither the Hungarian culture formerly imposed, nor the Rumanian now enjoined, seems to have any effect on its Germanic flavor.

Of sights, in the guidebook sense, it has its full share. The cathedral, with its monumental effigies of the long-dead burghers, looking in their sculptured ruffs well-nigh as lively as their descendants in the streets, is well worth a visit.

An excellent collection of early Dutch and Flemish paintings in the Brunkenthal Museum, formerly the palace of the governor of Transylvania, contains splendid specimens of those schools, including Jan van Eyck, Hans Memling, Brueghel, Jordaens, and Frans Hals the Younger.

North from Sibiu we drove toward Medias, the sixth of the seven towns. En route we stopped at an orchard farmhouse for a glass of milk. The old wife refused payment for her rural hospitality, and, on being pressed to accept something, said that she would deem it a favor if we would drive her daughter and granddaughter back to town.

We gladly acquiesced and a shy young woman with an infant in her arms seated herself beside the chauffeur. She adjusted her sailor hat atop the kerchief binding her flaxen hair, clutched the baby tightly with one hand and the side of the

© Hungarian Press Photographic Exchange

HARVEST TIME IN TRANSYLVANIA

car with the other, as we started toward town.

The old city contains little of note save a fortified church and an ancient gateway, formerly part of the fortifications. But we were chiefly interested in our passengers. The rush of wind had deranged the mother's kerchief and strands of hair protruded, to her great confusion.

As we drew up before her dwelling, a one-story structure with a long-shuttered façade toward the street, two of the neighbors peered from their windows, and our guest hastened her thanks for the first automobile ride of her life, in order to escape the prying eyes of the neighborhood gossips.

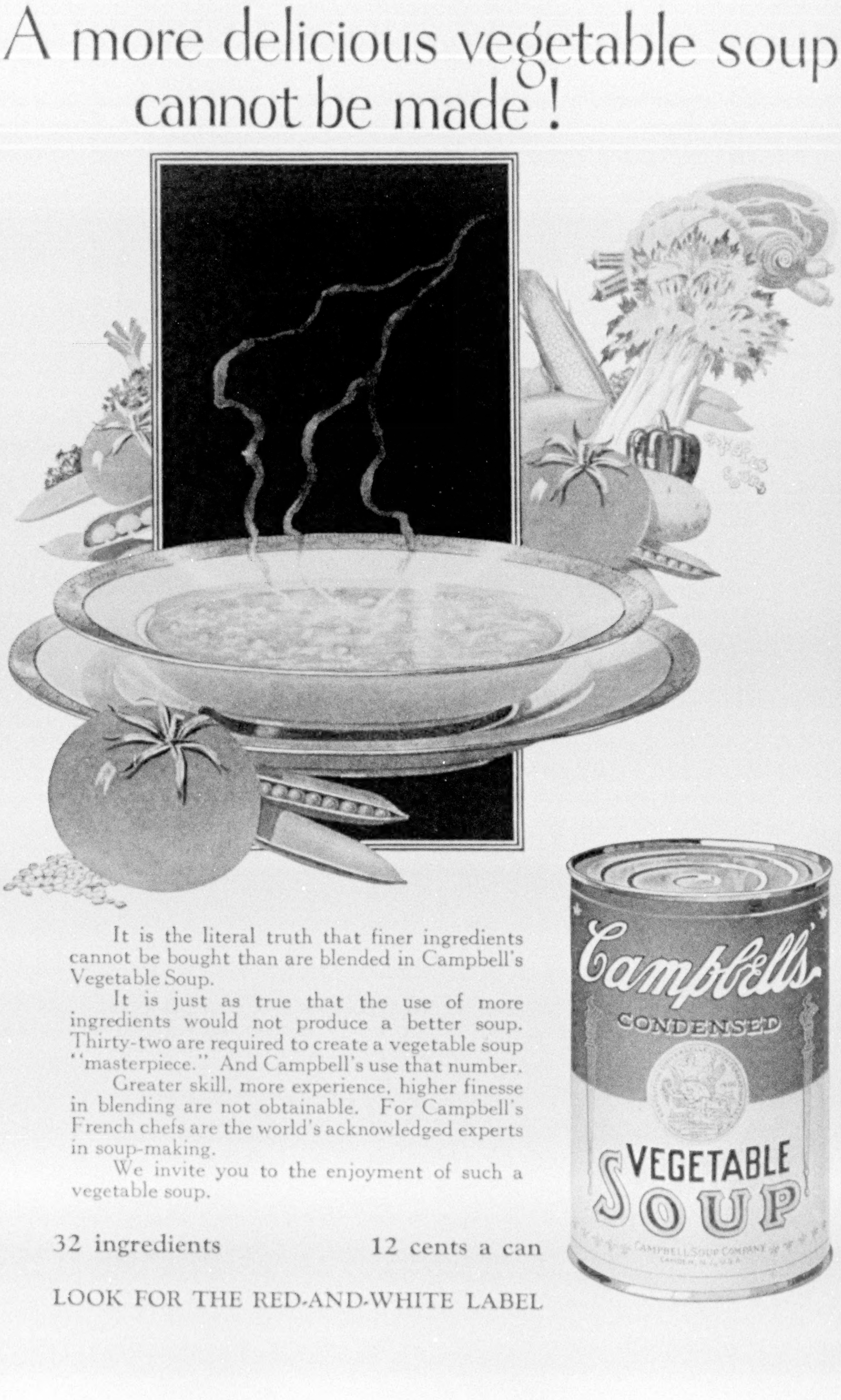
SIGHISOARA LEAST TOUCHED BY MODERNITY

We approached the last in the circle of the seven castle towns, Sighisoara, toward sunset. Its walled citadel and battlements and its turreted clock tower were outlined against a glowing sky, while the more modern town at the foot of the hill was lost in shadows.

It is a small city which overflowed some 200 years ago from the narrow confines of the inclosed citadel that still houses in its inaccessible mansions a goodly number of the 11,000 inhabitants who must make all their journeys on foot, as no vehicles can reach the summit.

The fifteenth-century castle church crowning the hill was built for strength rather than for beauty, but has attained a rugged charm, with its thick walls and slitlike Gothic windows.

Sighisoara is 65 miles from Brasov, the starting point of our journey, and is perhaps the least touched by modernity of these seven cities which have played so large a part in the history of Transylvania. For this reason we determined to conclude our tour of the province in this city, which united the charms of all the others.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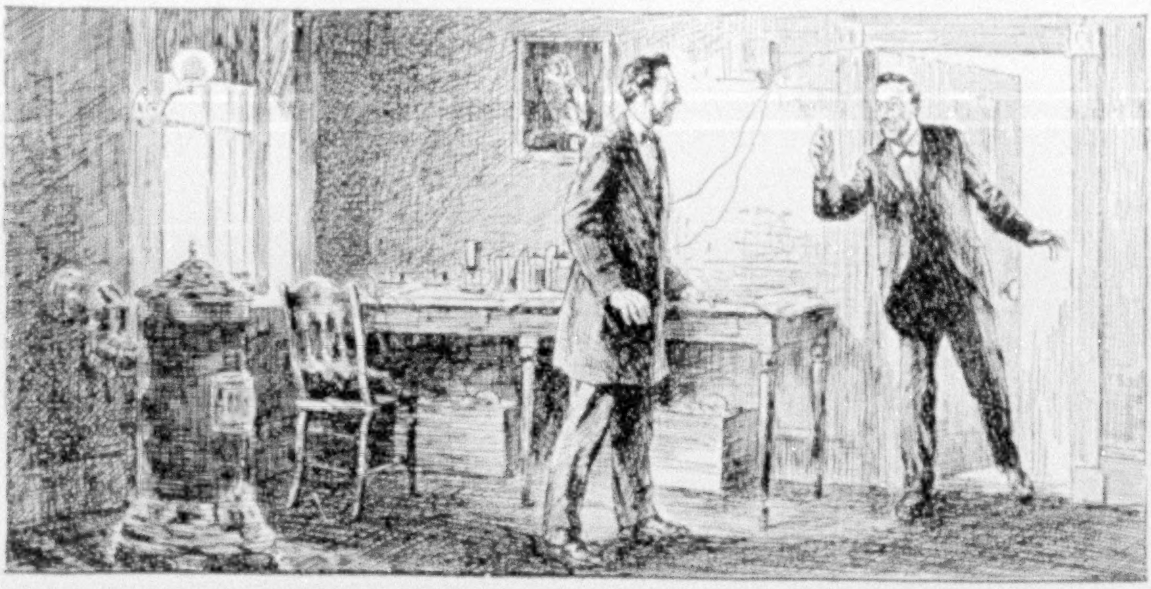

From One Sentence To Millions

On March 10, 1876, a single sentence was heard over the telephone. Now, after half a century, 50,000,000 conversations are heard each day.

"Mr. Watson, come here; I want you," spoken by Alexander Graham Bell, the inventor, was the first sentence.

His first crude instruments had been tested by sounds and single words; the patent had been granted; the principle was established from which a world of telephones has since resulted. But at that time the telephone had not proved its practical usefulness—its power to command.

Bell's words, electrically transmitted over a wire, brought his assistant from another part of the building. And with his coming, the telephone became a dynamic factor in human affairs.

Since that first call untold millions of sentences have been heard over the telephone. Men have traveled vast distances in answer to its calls. The wheels of great industrial enterprises have turned at its commands. Everything that man can say to man has been carried to a distance over its wires, and the thoughts and actions of nations have been influenced through its use.

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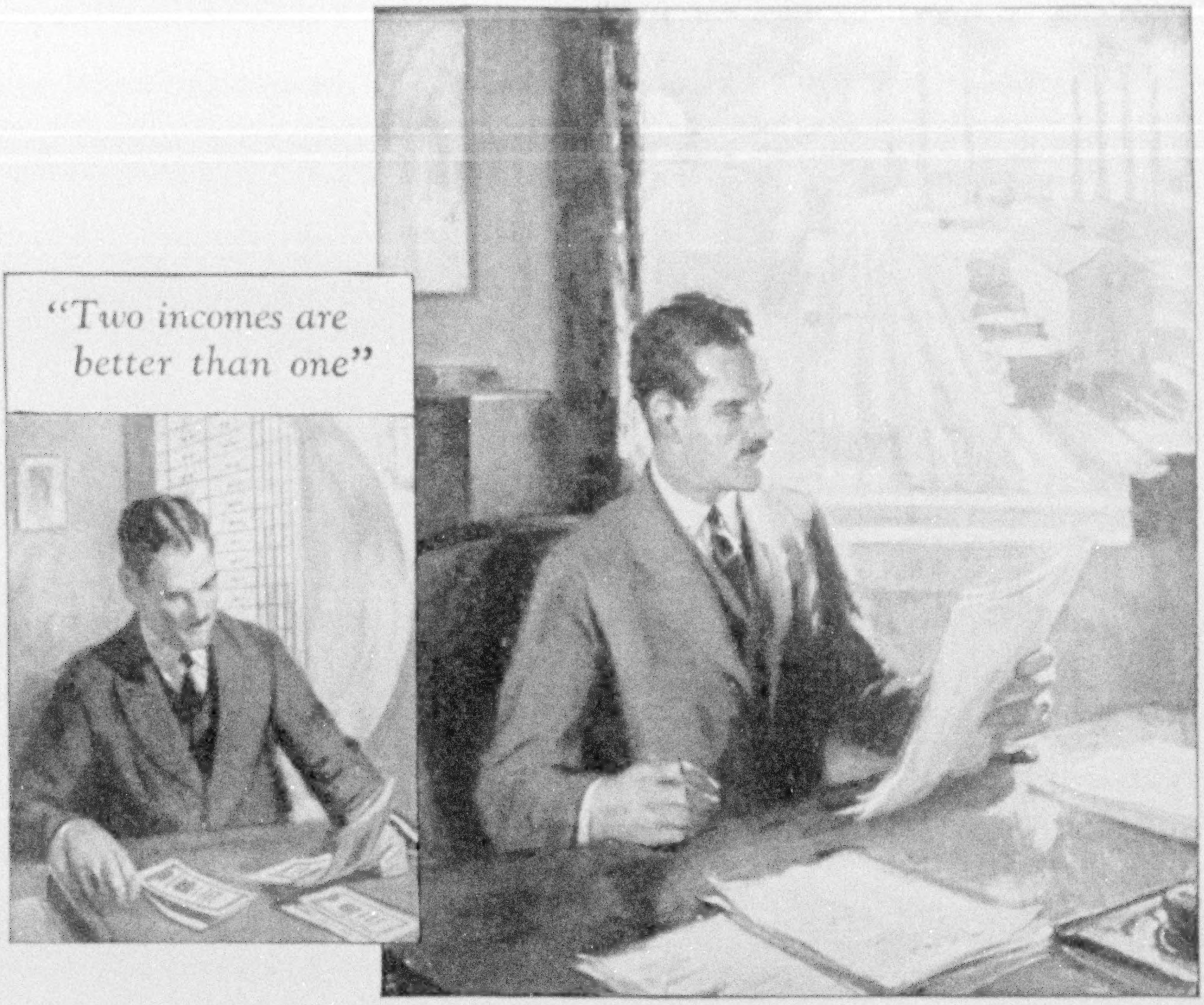
BELL SYSTEM

IN ITS SEMI-CENTENNIAL YEAR THE BELL SYSTEM LOOKS FORWARD TO CONTINUED PROGRESS IN TELEPHONE COMMUNICATION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Steady—*through ups and downs*

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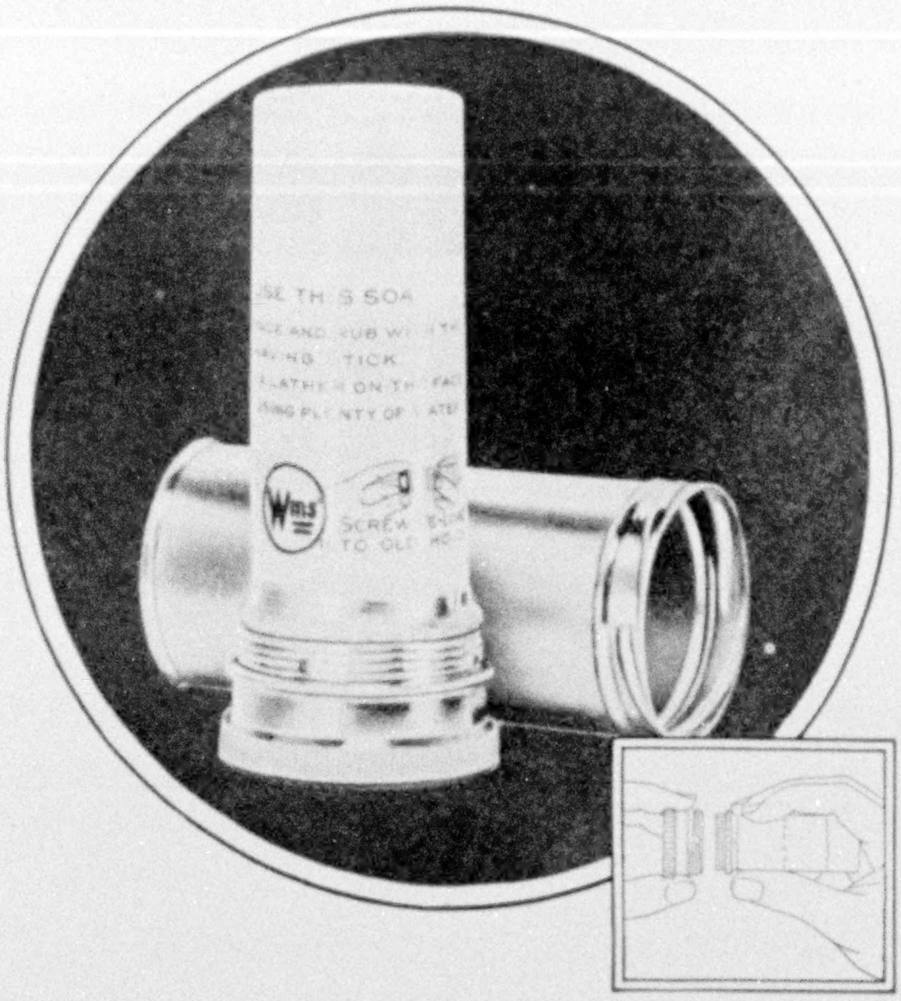
That's why forward-looking business men, professional men, salaried men, consistently invest a portion of each year's income in good bonds.

Our offices in more than fifty leading cities are ready to recommend attractive issues which will fit your needs.

The National City Company

National City Bank Building, New York

BONDS ACCEPTANCES SHORT TERM NOTES



THE SMALL *picture shows how the threaded metal ring on the Williams reload screws securely into the Holder Top. The soap can't loosen while in use—another famous Williams feature.*

WILLIAMS *Saturated* Lather in a Stick with a non-slip holder

MEN want two things above all others in shaving sticks. First: the right kind of lather, and second: a holder in which the soap can't work loose.

Williams gives you both. This soap works up into a quick, rich lather that bulks big on the face. A lather so saturated with moisture that it soaks right through all of each beard-bristle, so that the razor cuts without pull. Williams lather actually conditions the skin—makes it glove-smooth.

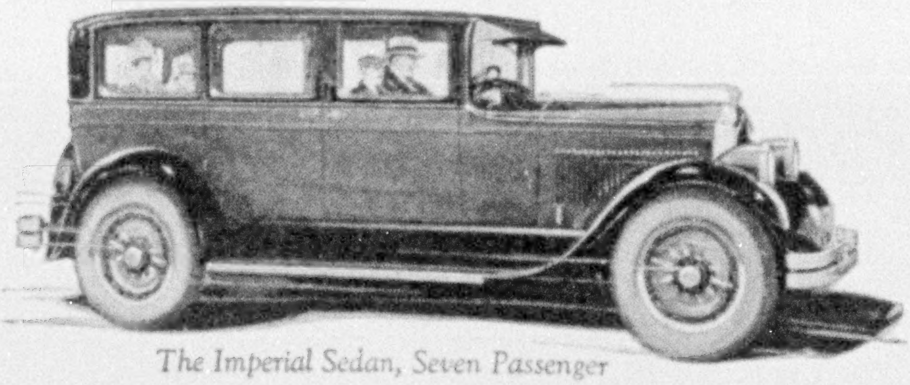
The holder grips the stick so that slipping is impossible. The soap itself is surrounded by a threaded metal ring which screws fast into the metal top. No chance for the stick to work loose. When a reload is necessary, the wafer of soap comes out surely and easily and can be placed on top of the new reload.

Three generations of specialization in shaving soap manufacture stand behind all Williams products. We make Stick, Cream, Powder, Tablet —four forms, one lather—Williams.

Aqua Velva is our newest triumph—a *scientific* after-shaving preparation. A few drops keep the face like velvet all day. We will send a generous test bottle free. The J. B. Williams Co., Dept. 53, Glastonbury, Conn. (Canadian address, 1114 St. Patrick St., Montreal.)

Williams
Holder Top Shaving Stick

AS FINE
AS MONEY CAN BUILD



The Imperial Sedan, Seven Passenger

UTMOST LUXURY FOR 2 to 7 PASSENGERS
92 HORSE-POWER—80 MILES PER HOUR

Waste neither time nor thought trying to find another car with which to compare the new Chrysler Imperial.

There is no basis for comparison, because the Chrysler Imperial departs distinctly from the stereotyped and the conventional.

It is different in the new application of proven engineering principles.

It is different in its new beauty.

It is different in the easeful way in which it rides and drives.

It is different in a host of decorative details.

It is different in the vital liveliness and pliability supplied by a wealth of power and an unusual speed capacity.

It is Chrysler through and through—Chrysler at its utmost and best—Chrysler now claiming for its own the topmost fine-car market.

CHRYSLER SALES CORPORATION, DETROIT, MICHIGAN
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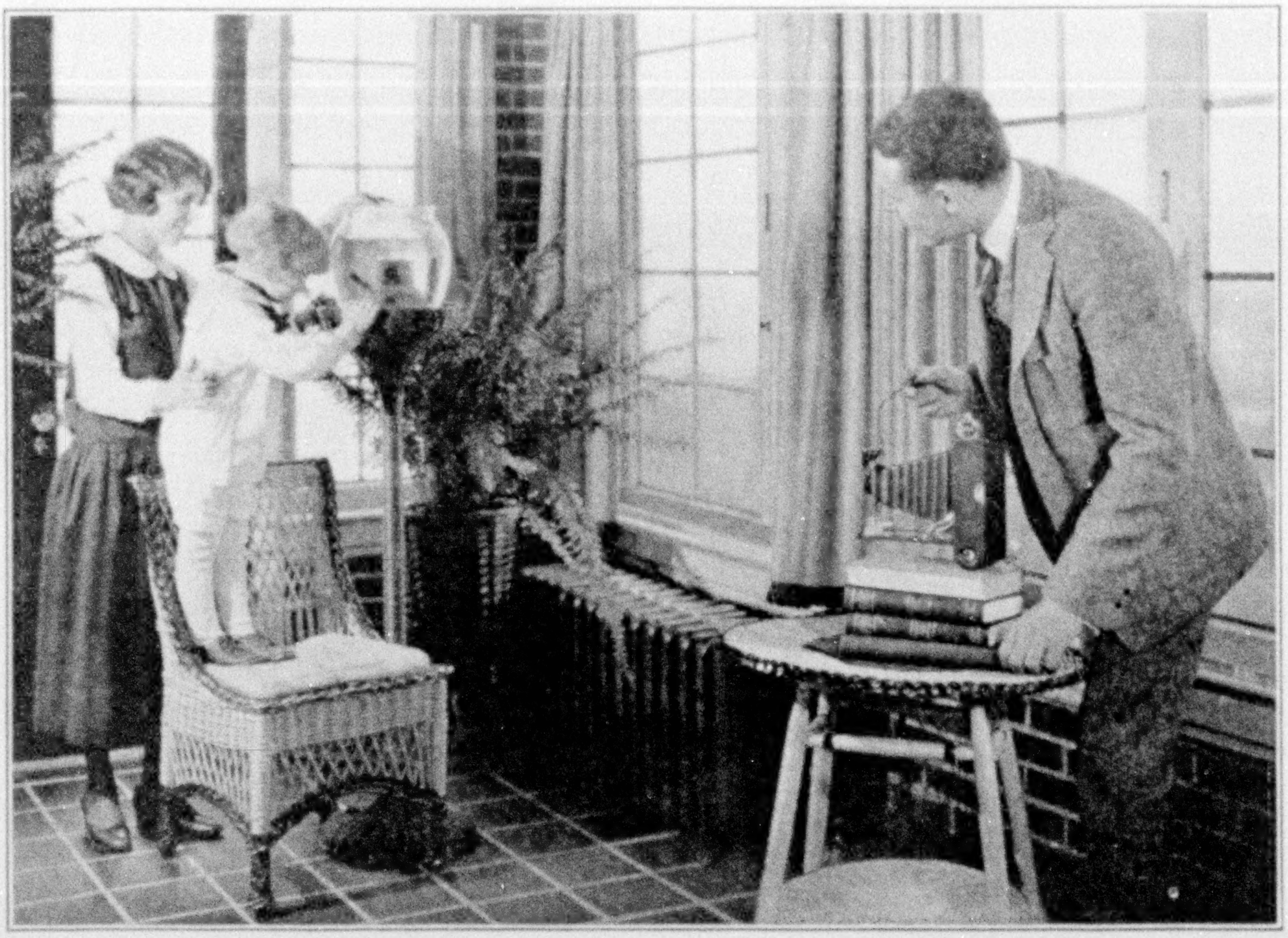
The New
CHRYSLER
IMPERIAL



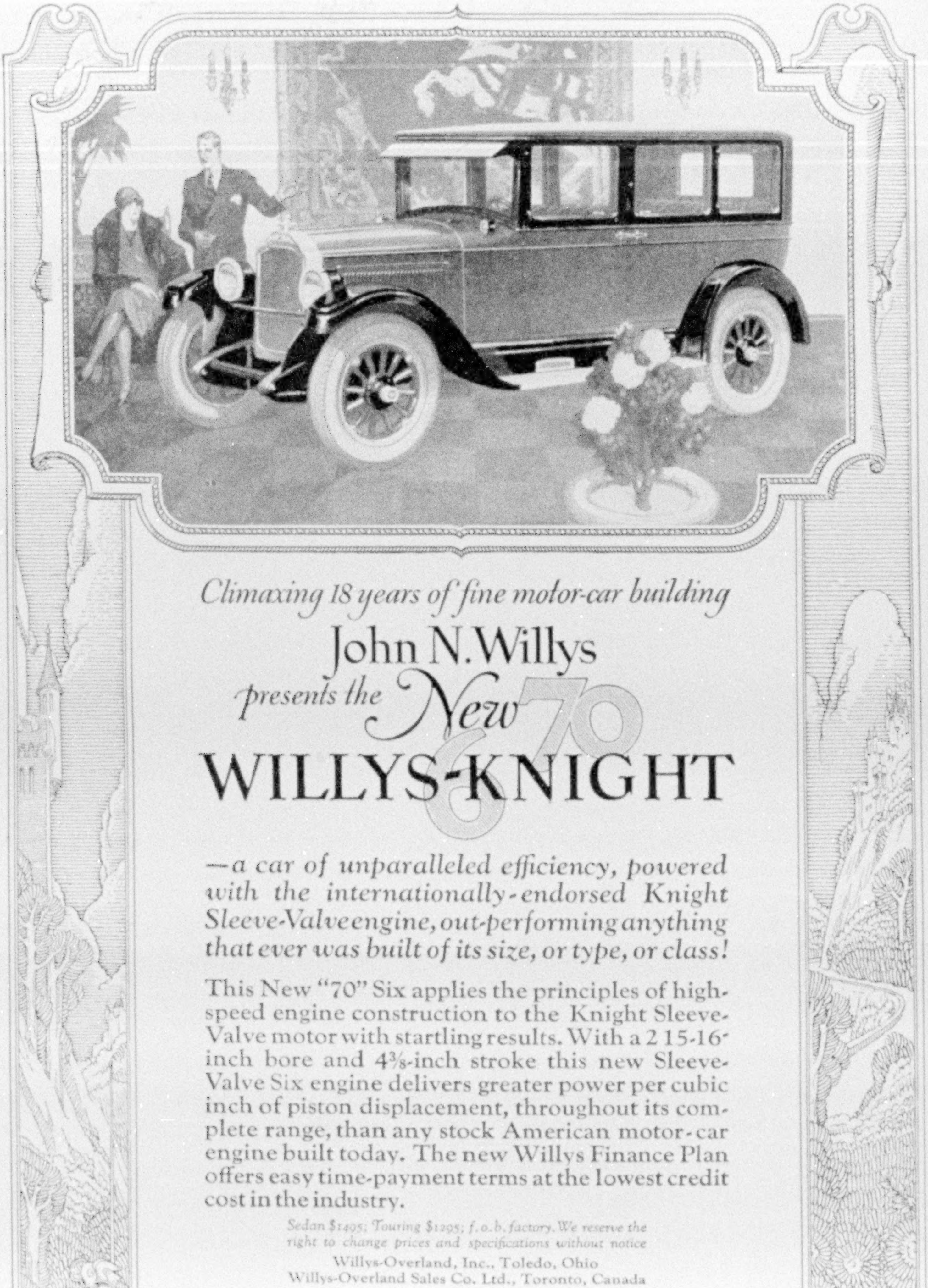
At Home with the Kodak

Little home incidents that may not mean so much at the time are the little things that count—in pictures. An album full is a prized possession in any home.

And it's all so easy with a Kodak. You can see for yourself at your dealer's.

"At Home with the Kodak", a free booklet from us or your dealer, gives you many pat pointers on picture-making.

Eastman Kodak Company, Rochester, N.Y., *The Kodak City*


THE SYMBOLS OF A DISTINGUISHED MOTOR CAR
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John N. Willys

presents the New 70

WILLYS-KNIGHT 6

—a car of unparalleled efficiency, powered with the internationally-endorsed Knight Sleeve-Valve engine, out-performing anything that ever was built of its size, or type, or class!

This New "70" Six applies the principles of high-speed engine construction to the Knight Sleeve-Valve motor with startling results. With a 2 15-16-inch bore and 4⅜-inch stroke this new Sleeve-Valve Six engine delivers greater power per cubic inch of piston displacement, throughout its complete range, than any stock American motor-car engine built today. The new Willys Finance Plan offers easy time-payment terms at the lowest credit cost in the industry.

Sedan $1495; Touring $1295; f.o.b. factory. We reserve the right to change prices and specifications without notice

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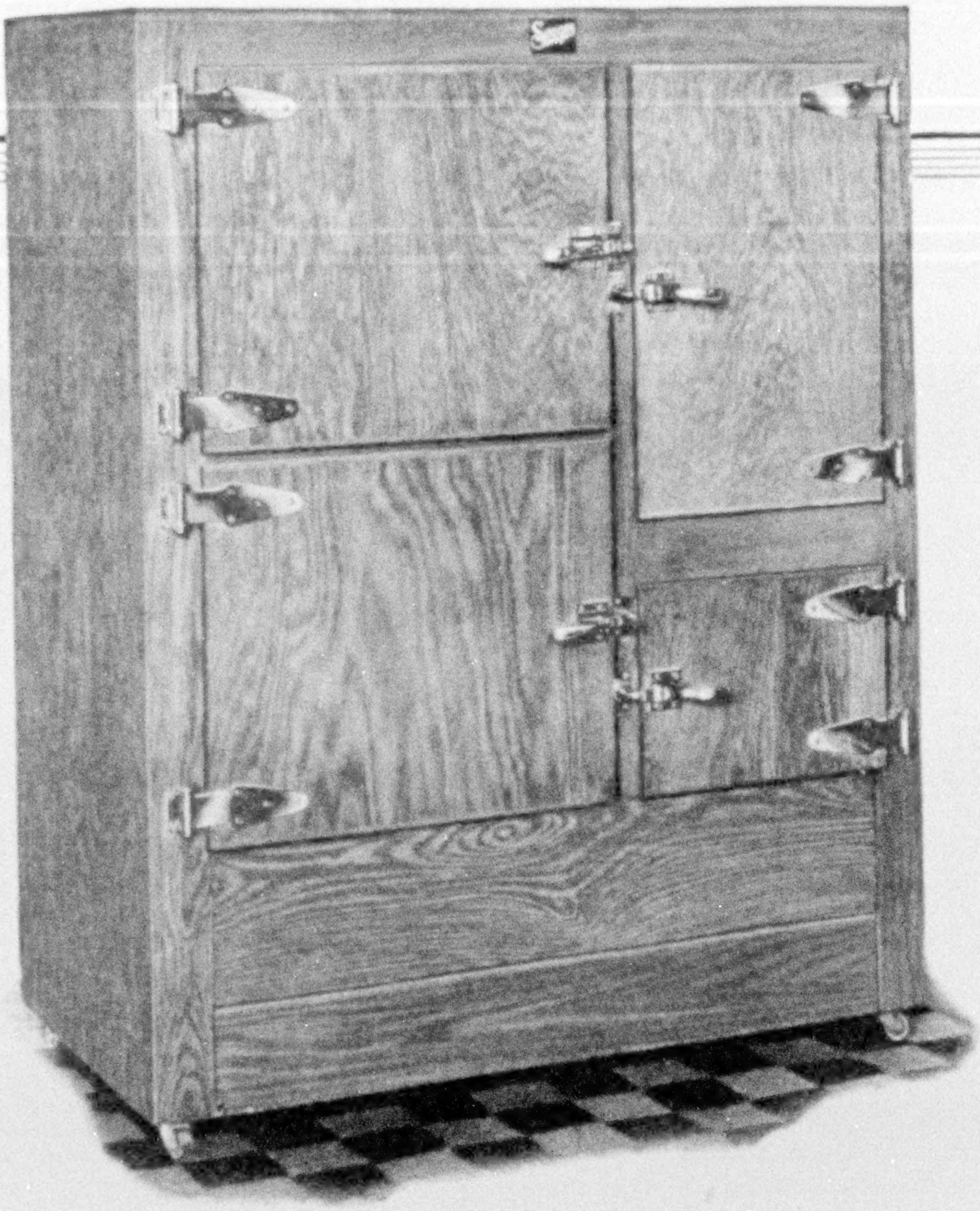
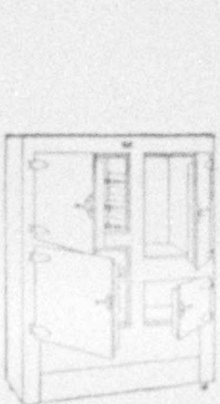


As good a refrigerator as the Seeger is worthy of electrical refrigeration. Equally efficient with ice.

Represented in all Cities

SEEGER REFRIGERATOR CO.
SAINT PAUL—NEW YORK—BOSTON—CHICAGO—LOS ANGELES

Seeger
ORIGINAL SIPHON
REFRIGERATOR



Standard of the American Home

Burroughs

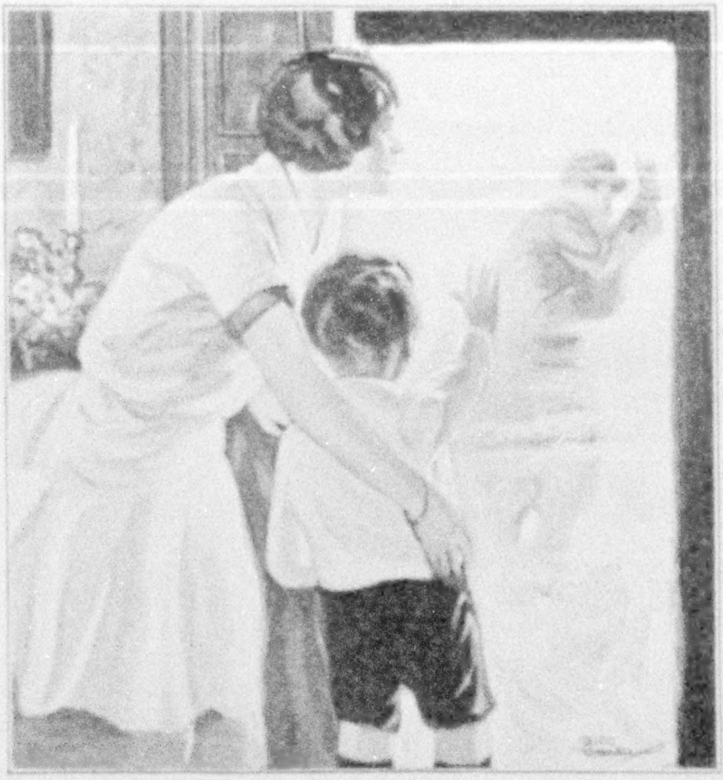
has Built its MILLIONTH Machine

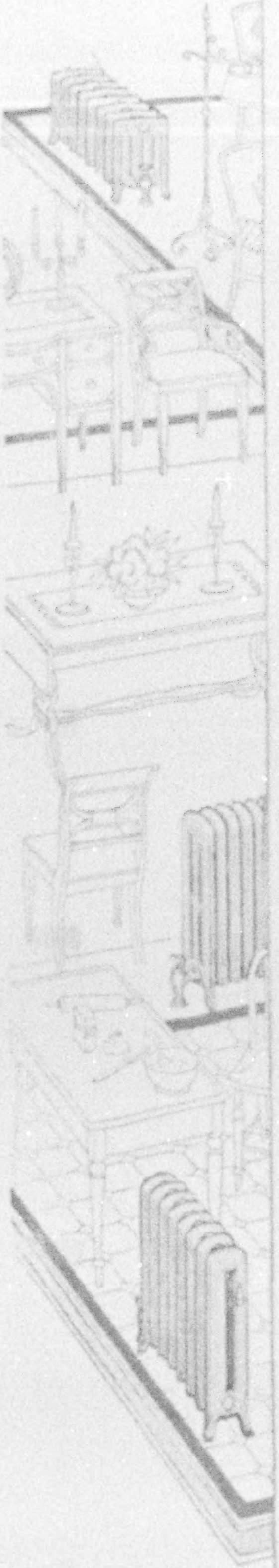
Your confidence in the Burroughs Company has made this accomplishment possible. The millionth Burroughs machine is tangible evidence of your generous acceptance of our contribution to modern business methods. We shall continue our policy of quality and service, which has won your support.

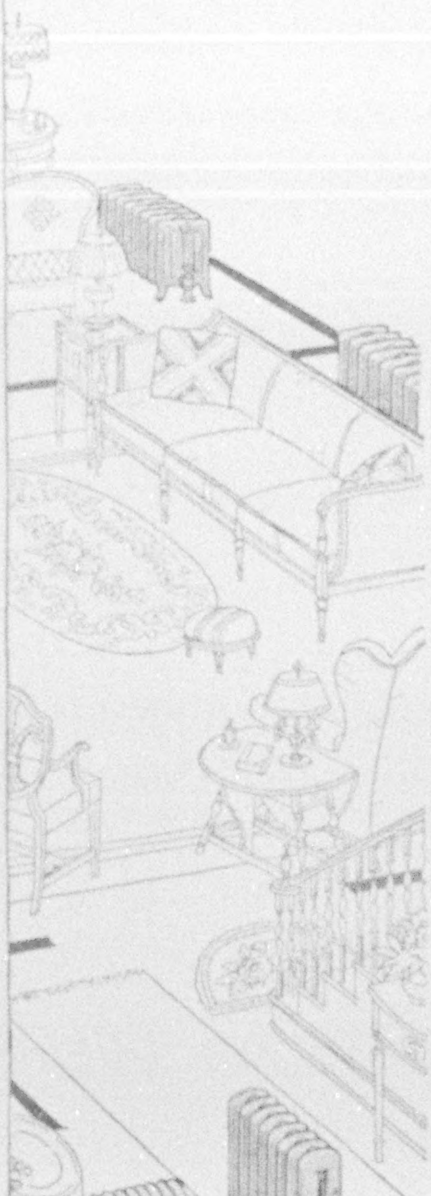
BURROUGHS ADDING MACHINE COMPANY
DETROIT, MICHIGAN

ADDING · BOOKKEEPING · CALCULATING AND BILLING MACHINES

DEPENDABLE HEAT ALL OVER THE HOUSE WITH ECONOMY







Know they'll be warm *until you return*

From your warm office or shop, do you vision your wife fighting to keep winter out, struggling with an antiquated heating outfit—work no woman should do?

You'd change all that in a minute, if you could afford it. You can. The surprising fact is, you are probably paying a lot more right now than the finest heating comfort would cost.

Investigate Capitol Boilers with United States Radiators for either steam or hot water. You fix the fire in five minutes in the morning and your wife and child are safe and warm until you return.

The fuel you save makes the change profitable. *Their* comfort and health make it essential. See your contractor about Capitol heating now. Write for "A Modern House Warming."

UNITED STATES RADIATOR CORPORATION
Detroit, Michigan
6 FACTORIES AND 28 ASSEMBLING PLANTS SERVE THE COUNTRY
For 36 years, builders of dependable heating equipment

GUARANTEED HEATING

Your contractor receives a written guarantee on the heating capacity of every Capitol Boiler. No other heating equipment assures you satisfaction so definitely.

Capitol Boilers
and
UNITED STATES RADIATORS

SUPPLIED AND INSTALLED NATIONALLY BY ESTABLISHED HEATING CONTRACTORS

If teeth are "off color"

clean whiteness can be quickly regained this way

They are simply film coated. Remove the film and wonders are worked. Teeth grow clear, gums firm and of healthy color. Send coupon for test tube

Free 10-Day Tube

Mail the Coupon

JUST because your teeth seem dull, don't believe they are naturally "off color." You can restore them to clear whiteness very quickly.

Dental science has made some important discoveries in lightening cloudy teeth—a *new* method in tooth and gum treatment.

It acts on new principles. In a few days you can work a transformation on your teeth. Can change your whole appearance.

Now a 10-day test is being offered. Just send the coupon.

It's just a film
Mere brushing won't do

Run your tongue across your teeth. You will feel a film . . . a slippery, viscous coating that dulls and clouds their beauty.

Ordinary methods won't successfully combat it. That's why, no matter how hard you try now, your teeth remain "off color."

Remove that film and what you see will amaze you. You are simply hiding their beauty now . . . just like grime on ivory.

New methods remove it
Whiten Teeth,
Firm the Gums

Film is charged, too, with most tooth and gum troubles. It clings to teeth, gets into crevices and stays. Germs by the million multiply in it and lay your teeth open to decay, your gums open to bacterial attack. They, with tartar, are the chief cause of pyorrhea.

Old methods failed in combating it successfully. Then new ones were found and embodied in a new-type dentifrice called Pepsodent.

It acts to curdle the film and remove it. Then to firm the gums.

Send Coupon

Results are quick and convincing. Largely on dental advice the world has turned to this new method.

A few days' use will amaze you. The difference will be noticeable. You will note it. Those with whom you come in contact will note it. You owe clear teeth to yourself. Send the coupon before you forget.

FILM the worst enemy to teeth

You can feel it with your tongue

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THE PEPSODENT COMPANY
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1104 S. Wabash Ave.
Chicago, Ill., U. S. A.

Pepsodent PAT. OFF REG. U.S.
The New-Day Quality Dentifrice
Endorsed by World's Dental Authorities

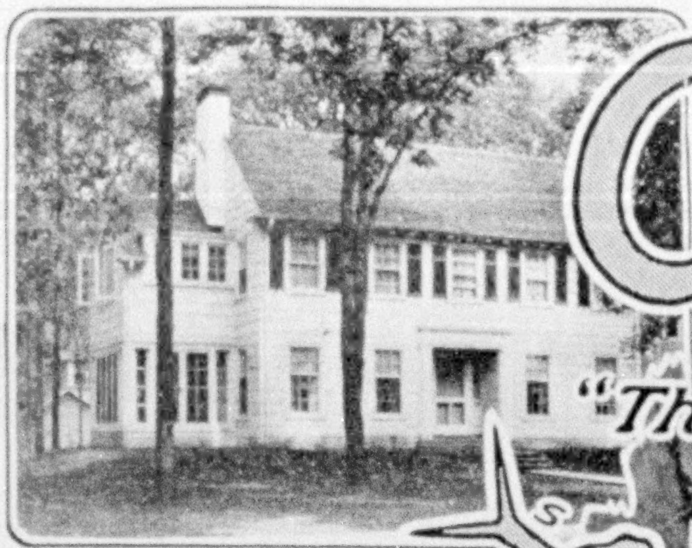
Name ....

Address ....

Only one tube to a family. 1966

Tide Water Red Cypress

"The Wood Eternal"



Tidewater RED Cypress used for siding, sash, doors, window shutters, cornices and exterior trim as well as interior finish in this fine Suburban Colonial Home. Lowe & Bollenbacher, Chicago, Architects.

Free Plans for this Colonial Home upon request. Ask for No. 46N.

Old Perique House, Lutcher, La., erected entirely of Red Cypress in 1750. Older than the Constitution; it is still occupied as a residence.

For Your Home Beautiful & Enduring

nothing will give better, or more economical service than Tidewater RED Cypress, as evidenced by the many old residences of pre-revolutionary days that are still habitable and in an excellent state of preservation.

Impregnated with a natural preservative during centuries of growth, Tidewater RED Cypress is highly immune to the rot-inducing agencies of heat, moisture, bacteria, fungus growths, contact with soil and to rigors of time and weather.

And, today, Tidewater RED Cypress is better lumber than ever before. Logged from the same old virgin swamps of the Southlands as of yore, it is scientifically manufactured into lumber, siding, lath and trim by modern mills and rigidly graded for your every requirement. The Arrow trade-mark guarantees responsible manufacture. Look for it on every board or bundle.

Used for foundation sills, siding, porches (floors, columns, rails, steps), sash, doors, cornices and all exterior trim, "Heart" Tidewater RED Cypress insures your property against early depreciation and averts costly repair bills.

For fine interior trim it assures equal durability plus beauty and economy.

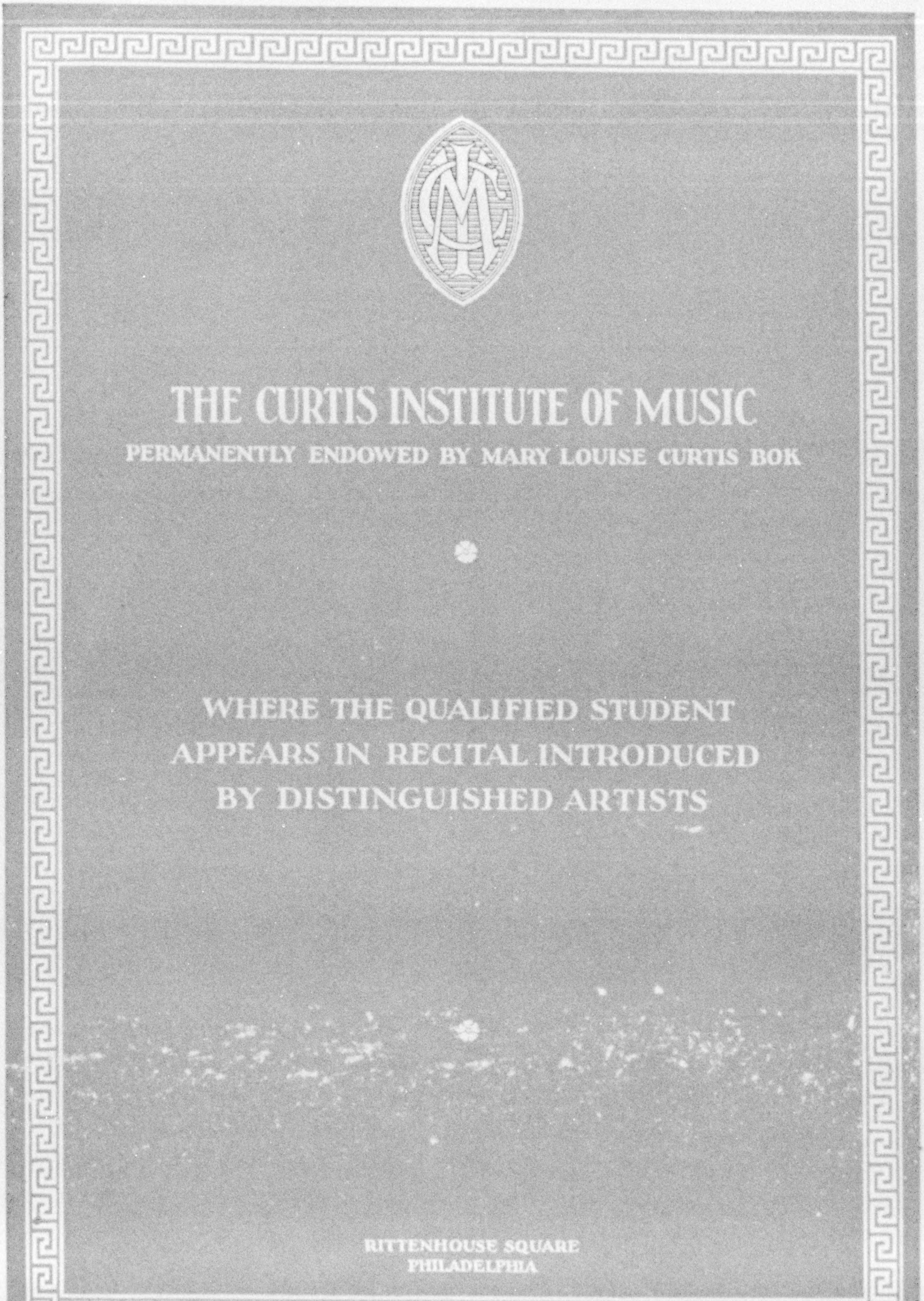
Get all the facts about this versatile home-builder's wood before buying a stick for any purpose. Ask also about Tupelo—the long wear economical interior flooring. Ask your lumber dealer or write us.

This arrow identifies Tidewater Red Cypress

For Free Plans of Colonial Home shown above
Write for Plan No. 46N

SOUTHERN CYPRESS MFRS. ASS'N.
1224 Poydras Building, New Orleans, La.
1224 Graham Building, Jacksonville, Fla.

Buy by the Arrow
Save by the Year



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APPEARS IN RECITAL INTRODUCED
BY DISTINGUISHED ARTISTS

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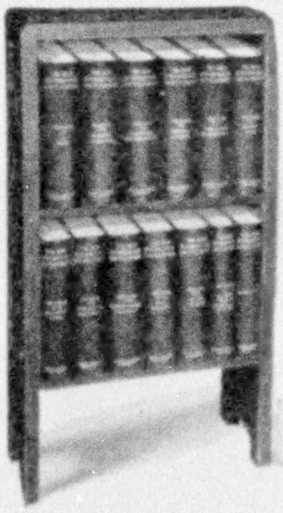

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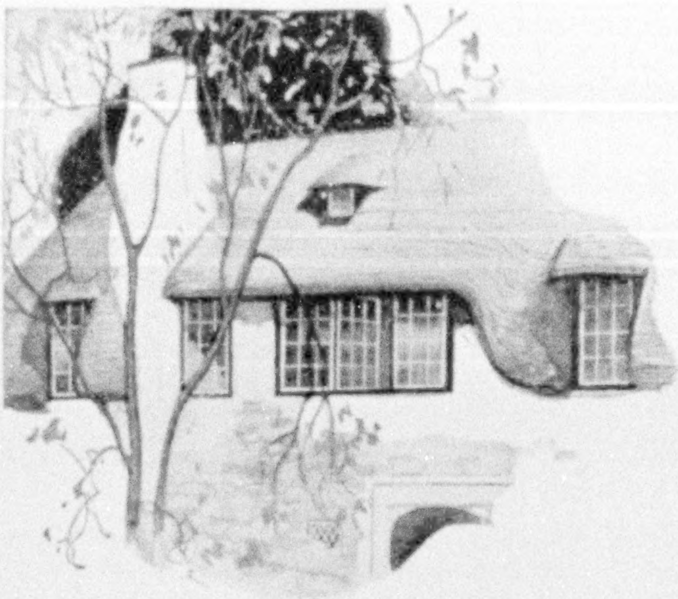


Casement Windows of Rare Beauty

You May Have Them at Low Cost

You must live with your windows, look through them daily, open and close and wash them many times in a year.

Choose, then, the type of window that combines surpassing beauty and charm with exclusive features of comfort and convenience.

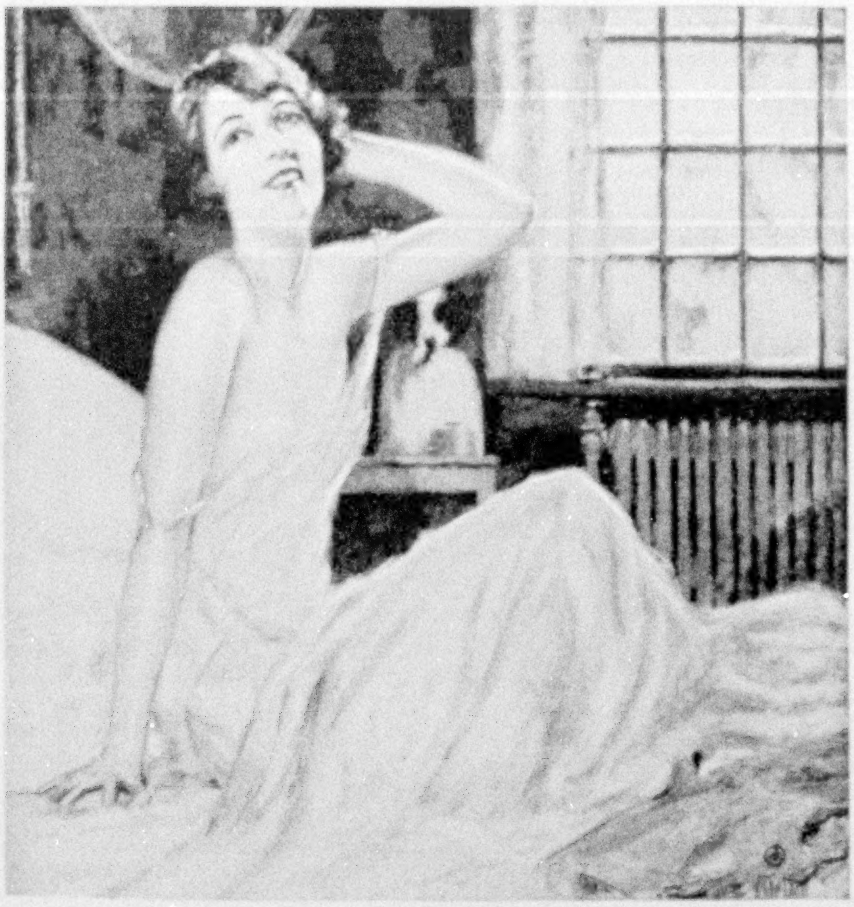
Artistic Reswin Casements, made of enduring steel, cost little more than ordinary wood windows. *Guaranteed* weather tight, they never stick, warp or swell. Opening in or out as you prefer, they admit more light and air to room interiors.

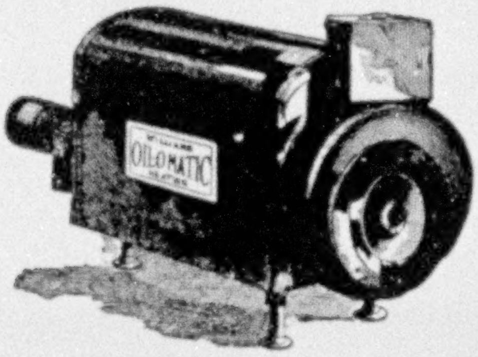
Our catalog, sent free on request, shows how easily these windows may be draped, screened and washed. It describes also the variety of standard sizes in which Reswin Casements are made, for large and small homes.

CRITTALL CASEMENT WINDOW COMPANY
10931 HEARN AVENUE · DETROIT, MICH.

Manufacturers of

Reswin
CASEMENTS
Standardized Steel Windows





"THE comfort and convenience once restricted to luxurious hotel life, is an everyday experience in the home that is heated with Oil-O-Matic. No room is ever cold—unintentionally."

Men can be so stubborn
about a thing like oil heat

A protest by MARY EDGINGTON WIDNEY

Man is so inconsistent. He illuminates our fingers with jewels, and lets us shake the furnace.

He buys us an electric washer to save hands that must split kindling. Or he writes a sizable check each week for a maid who won't even look at the fire. He surprises us with a grand piano and expects us to play "The End of a Perfect Day," after playing fireman. He gives us a closed car and cautions us not to let the furnace go out.

And all to no purpose. Even to his own discomfort.

Oil heat without attention

He could have oilomatic heat installed for the price of a few tons of coal. And the odds are, that while paying the balance over a year, he would save about 10% on the heating bill.

Granted that we women know little of mechanics. The kind of oil heat I am referring to doesn't require that we do. All of my neighbors who have oilomatic heat say that they never look at their burner except to show it to guests. When I visit them, I cannot tell whether the burner is running or not.

Oil heat not expensive

But the thing I do notice is the sense of comfort and the freshness of their furnishings. And they don't dust half as often as I do. I have to have the ivory woodwork cleaned before every party. They never touch theirs. I have my white curtains washed three times as often.

And with all this extra work, our coal heat costs us more than their oil heat!

Comfort is beyond price

It is not cost that is depriving thousands of families of oilomatic heat. They spend an equal amount many times for luxuries that cannot give a fraction of its comfort and satisfaction. Nor is it the size of their house or type of heating plant. Oil-O-Matic has been functioning with the regularity of a watch for seven years in houses of five to thirty rooms. And in every standard heating plant.

It is only because they do not realize how much more comfortable home would be. Or what a relief it is to be freed from all thought and care of the furnace.

Get the facts today!

Once you talk to the oilomatician in your community you will see oil heat in its true light. Or read, "Heating Homes With Oil." It's a new book just off the press, that you may have for the simple return of the coupon below. Just fill in your name and home address and drop it in the mail.

**WILLIAMS
OIL-O-MATIC
HEATING**

World's Largest Producer of Automatic Oil Burners

Williams Oil-O-Matic Heating Corp.
Bloomington, Illinois NG36

Without obligation, please send me a copy of your latest book on "Heating Homes With Oil."

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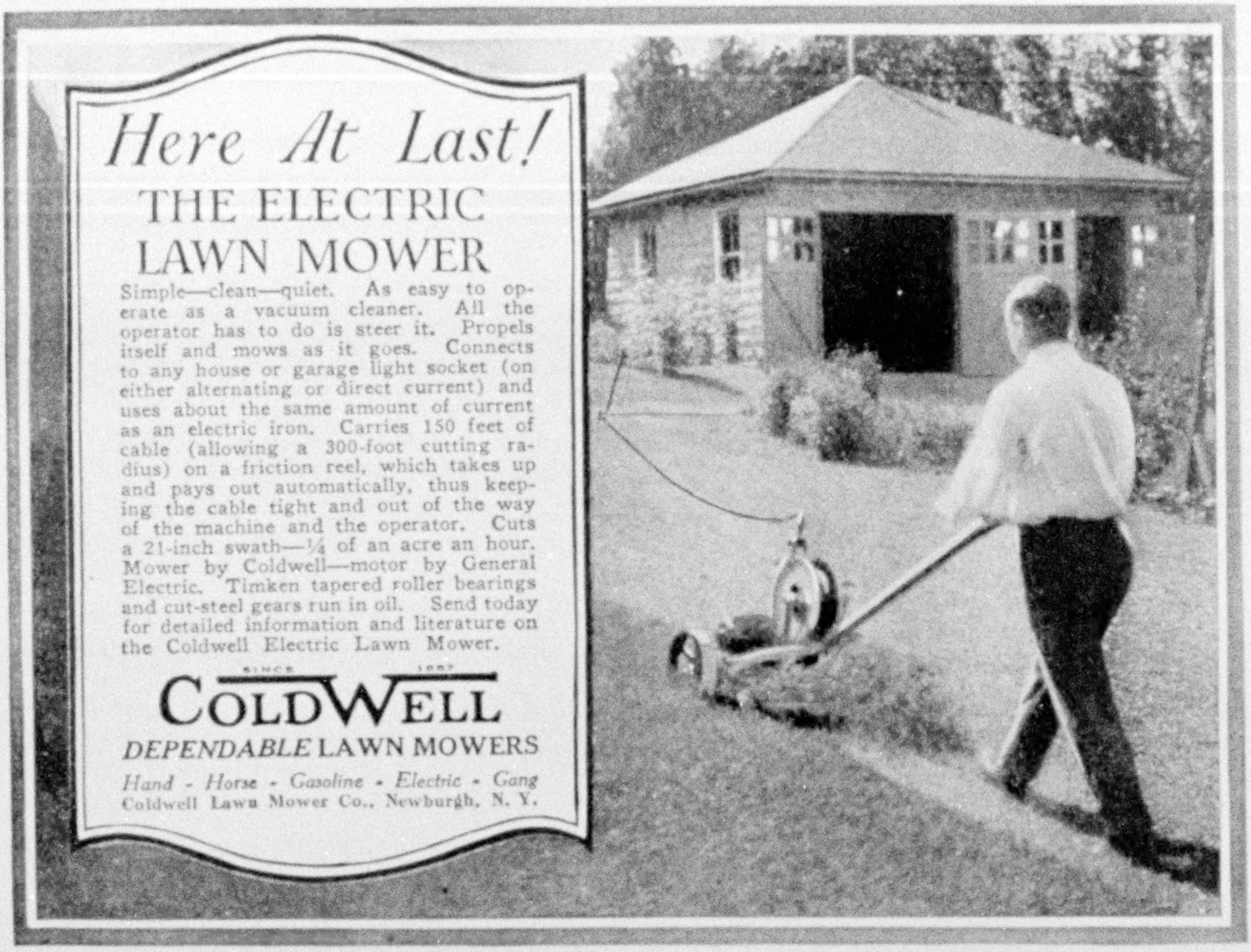
Our heating plant is:
☐ Steam ☐ Hot Water ☐ Warm Air



Here At Last!

THE ELECTRIC LAWN MOWER

Simple—clean—quiet. As easy to operate as a vacuum cleaner. All the operator has to do is steer it. Propels itself and mows as it goes. Connects to any house or garage light socket (on either alternating or direct current) and uses about the same amount of current as an electric iron. Carries 150 feet of cable (allowing a 300-foot cutting radius) on a friction reel, which takes up and pays out automatically, thus keeping the cable tight and out of the way of the machine and the operator. Cuts a 21-inch swath—¼ of an acre an hour. Mower by Coldwell—motor by General Electric. Timken tapered roller bearings and cut-steel gears run in oil. Send today for detailed information and literature on the Coldwell Electric Lawn Mower.

SINCE 1867

COLDWELL

DEPENDABLE LAWN MOWERS

Hand - Horse - Gasoline - Electric - Gang

Coldwell Lawn Mower Co., Newburgh, N. Y.

SWEDEN

Welcomes You

Under Sweden's sunlit nights of enchantment you discover Viking relics, ivy-draped castles, a smiling countryside with peasantry in national costume, magnificent cities, and the arctic mountains of Lappland. Excellent railways, steamers, hotels. Eight days from New York, by Swedish-American Line or via London or continent. Booklet, "Tours of Sweden, 1926," from any travel bureau or

SWEDISH STATE RAILWAYS, 52 VANDERBILT AVE., NEW YORK

"Take your vanity mirror," said the dentist, "and look **behind** *and* **between** *your teeth—that's where trouble starts."*

All her care went for naught!

THREE cavities! Last time it was four. At every visit to her dentist, for several years, the same story.

"A clean tooth never decays," she was told. And did she not brush hers three times a day? She expressed this puzzlement.

"Take your vanity mirror," said the dentist, "and look **behind** and **between** your teeth; here, before this large mirror."

She did. Gray-white deposit at gum line. Tartar. Here and there, dark stains. A discolored look between the teeth.

"Disgusting. And they looked so white and clean on the outside, I never suspected. But what can one do?"

"Clean the hidden spaces—the back surfaces, the crevices, the places you can't reach with a brush. That's where trouble starts. Get a **liquid** cleanser—a real solvent for mucin. Ordinary methods won't do."

CERTIFICATE *of* DISCOVERY
THE MELLON
INSTITUTE *of* INDUSTRIAL RESEARCH
PITTSBURGH, PA.

Certifies that C. C. VOGT, A.M., Ph.D., an Industrial Fellow at the Institute, discovered and perfected the formula of "MU-SOL-DENT" which is chemically an efficient solvent of mucin plaques.

He took a bottle from the top of his cabinet and handed it to her. "Mu-Sol-Dent" she read on the label. "What does it mean?"

"Mucin solvent dentifrice—something we have been looking for since the causes of tooth decay and tartar were first discovered. Because it is a liquid, it floods every crack and crevice in your mouth. It gets into the hiding places and cleans them out like nothing else I know of."

"Shall I use it with a tooth paste?"

"No, Mu-Sol-Dent is a complete tooth and mouth cleanser—it does the work of paste, powder and mouth wash combined, in a quicker, safer and more effective way. It cleans scientifically by dissolving the tough, sticky mucin film. Thus is removed the medium in which decay germs breed and dangerous tartar crusts are built up." . . .

That's how she came to use Mu-Sol-Dent.

She still goes to her dentist now and then, but the experience is different. "Fine," he says. "No cavities. Apparently no decay since you began using Mu-Sol-Dent. And very little tartar. That's important, too, for tartar is the commonest cause of bleeding gums and of resulting pyorrhea."

"I didn't know that; but I'll tell you one thing, Doctor. Even if Mu-Sol-Dent hadn't worked half this miracle for me, I wouldn't for anything go back to the messy old way of cleaning my teeth. Mu-Sol-Dent is so pleasant to use and makes my mouth feel so deliciously clean and sweet! It's been a godsend to me, actually; and I tell all my friends about it."

Mu-Sol-Dent

At all leading drug stores. Get a bottle today or use coupon for sample.

Send with 10c for Mailing

The V. B. Corporation
916-N Forbes St., Pittsburgh, Pa.

Please send Sample Bottle of Mu-Sol-Dent to

Name...

Address...

For Sleep
make this your evening
Coffee

There is a coffee with the caffeine taken out. A pure coffee, a delightful blend. All the flavor and aroma are intact. We simply open the pores and remove the caffeine. That's the drug which makes one wakeful and which harms so many.

The name is Kaffee Hag. It's a coffee you can drink at any hour, and all you want. No one need turn to a substitute.

So good that countless homes have adopted it. The finest hotels now serve it. Not a coffee delight is missing, not a quick bracing effect.

If anyone about you has to stint on coffee, try Kaffee Hag. Send the coupon with a dime for a 10-cup package. It will open the door to all coffee joys. Clip coupon now.

Mail This Today for 10-cup Sample; 10 cts.
KAFFEE HAG
1540 Davenport Ave., Cleveland, Ohio
Name...
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Scotland first!

THE ROMANCE and beauty of Scotland belong to the Anglo-Saxon family—as much to England as to Scotland, and as much to America as to either.

Much of the best scenery in Great Britain is found along the two London Midland and Scottish Railway routes to Scotland. Travellers may journey north by one route and return by the other.

In the heart of Scotland stands Gleneagles Hotel — a palace worthy of Scotland and Scotland's guests.

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Illustrated pamphlets from John Fairman, LMS Agent, 200 Fifth Avenue, New York, or from any office of Thos. Cook & Son

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Garden Book

"ARMCHAIR gardening" is a fascinating occupation for a winter evening. With a copy of Dreer's 1926 Garden Book you can plan next summer's garden from its wealth of suggestions in Flower and Vegetable Seeds, Lawn Grass, Roses, Dahlias, Hardy Perennials, etc.

A copy mailed free if you mention National Geographic

HENRY A. DREER
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BY CUNARD LINE BIG NEW OIL-BURNERS
NORWAY AND WESTERN MEDITERRANEAN
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Rates include hotels, drives, guides, fees.

Books also open for 1927 cruises: Jan. 19 Round the World 7th Cruise, $1250 to $2900; Jan. 29 Mediterranean 23d Cruise, $600 to $1700; Feb. 5 new South America and Mediterranean Cruise, $800 to $2300.

Please specify program desired.

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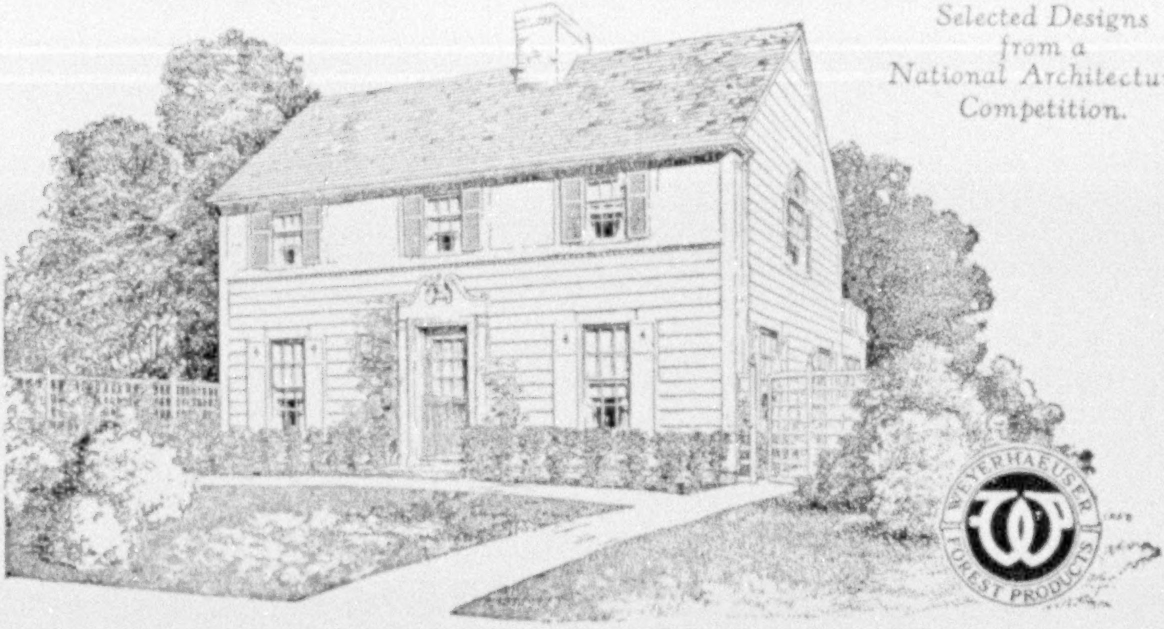
The Second of a Series of Selected Designs from a National Architectural Competition.



C. W. Cleary and J. N. Holden, *Architects*

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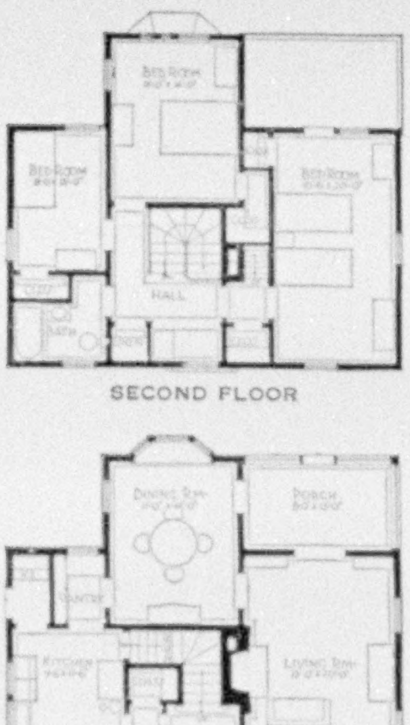
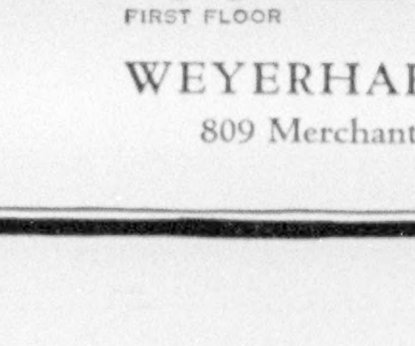


SECOND FLOOR



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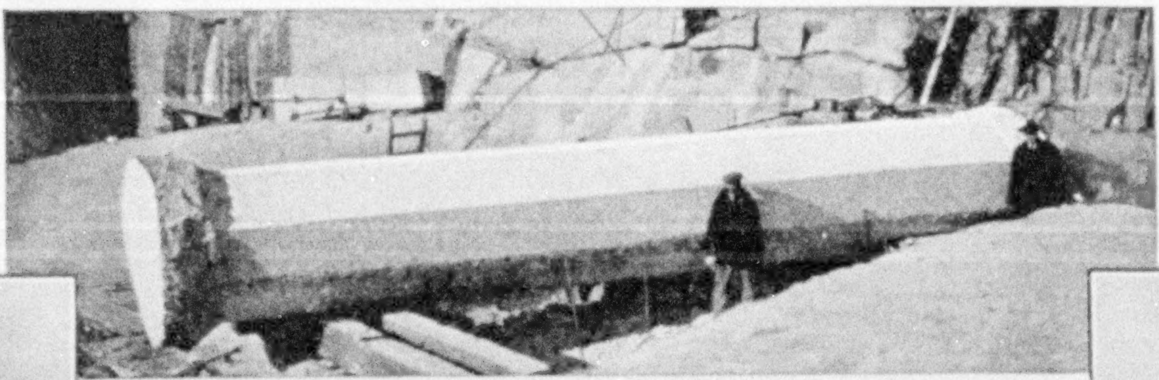

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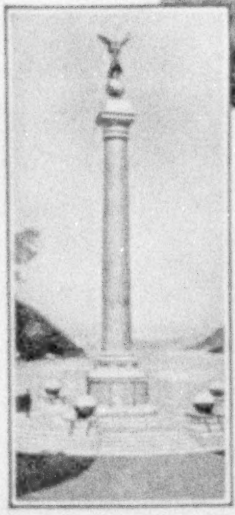
Completed size, 35 feet high by 5 feet 6 inches in diameter



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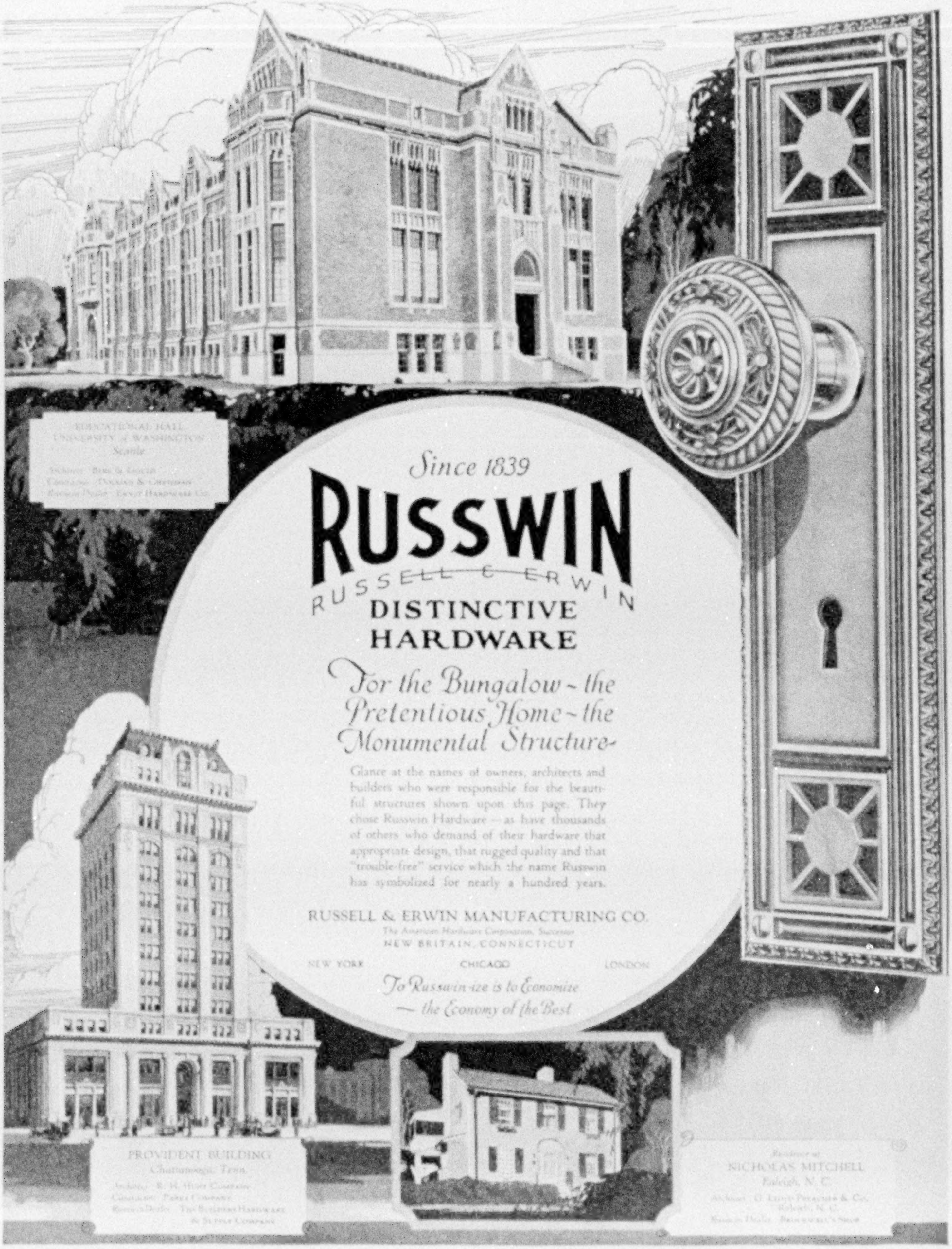

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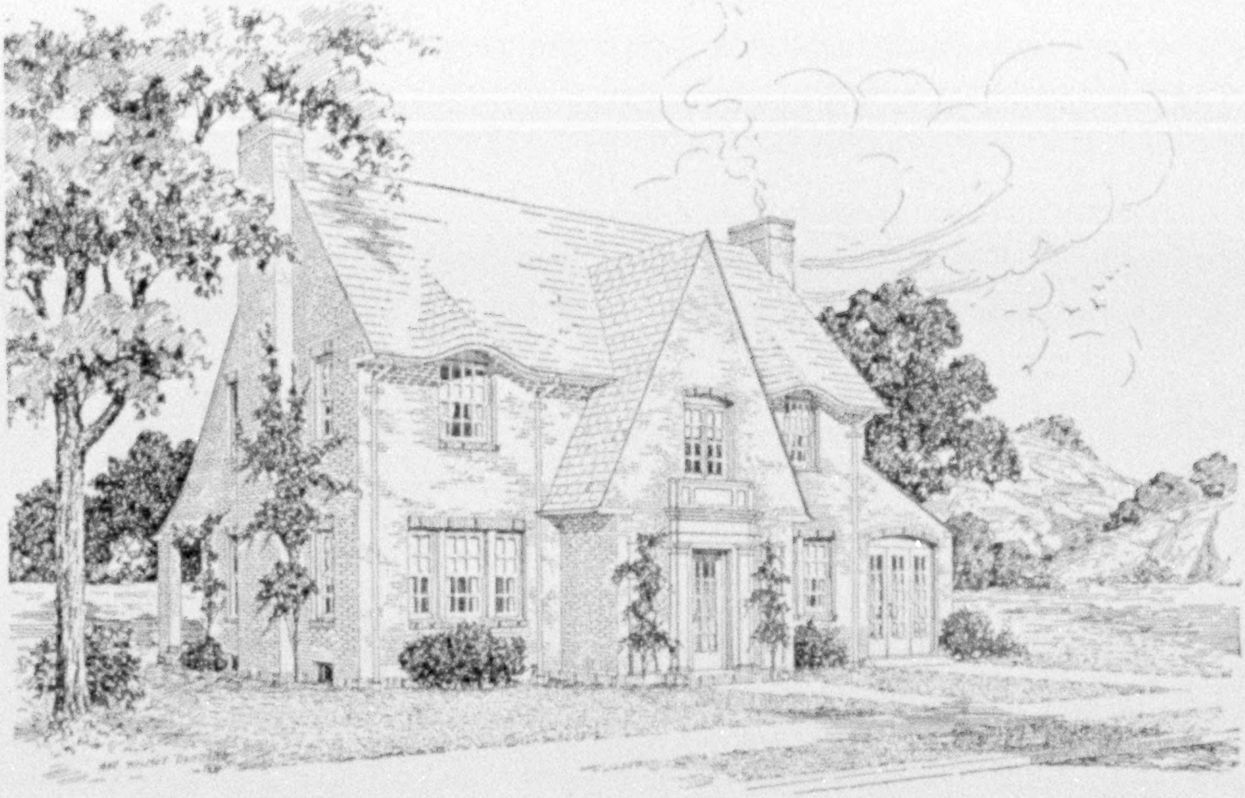

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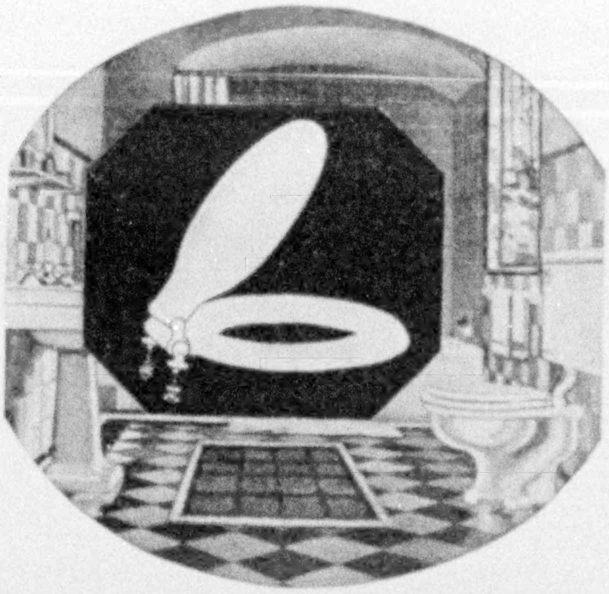

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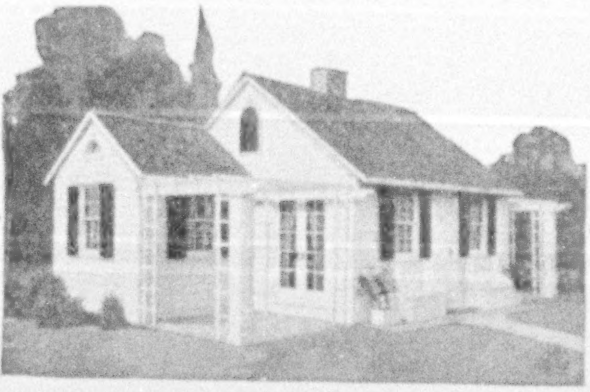

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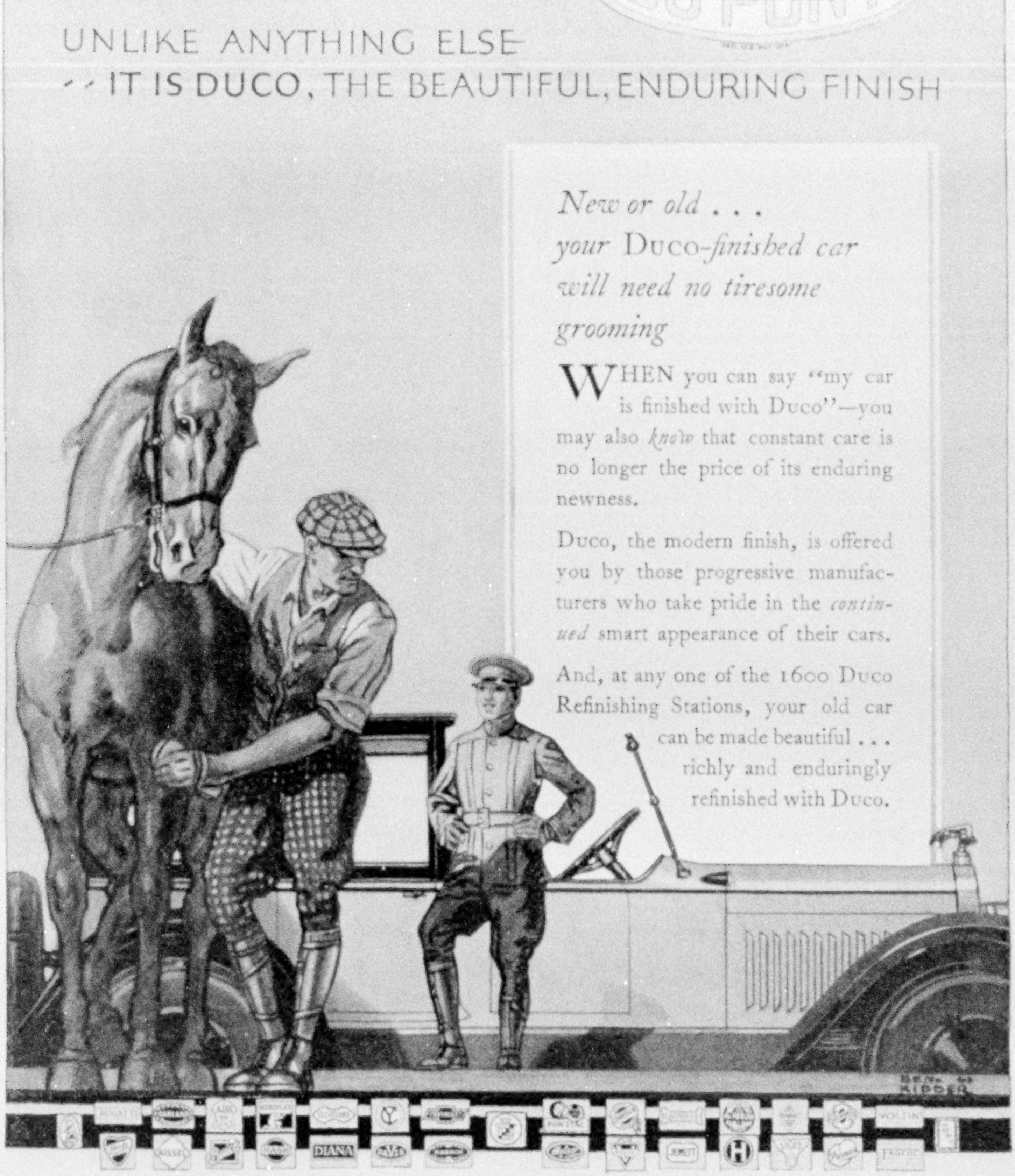

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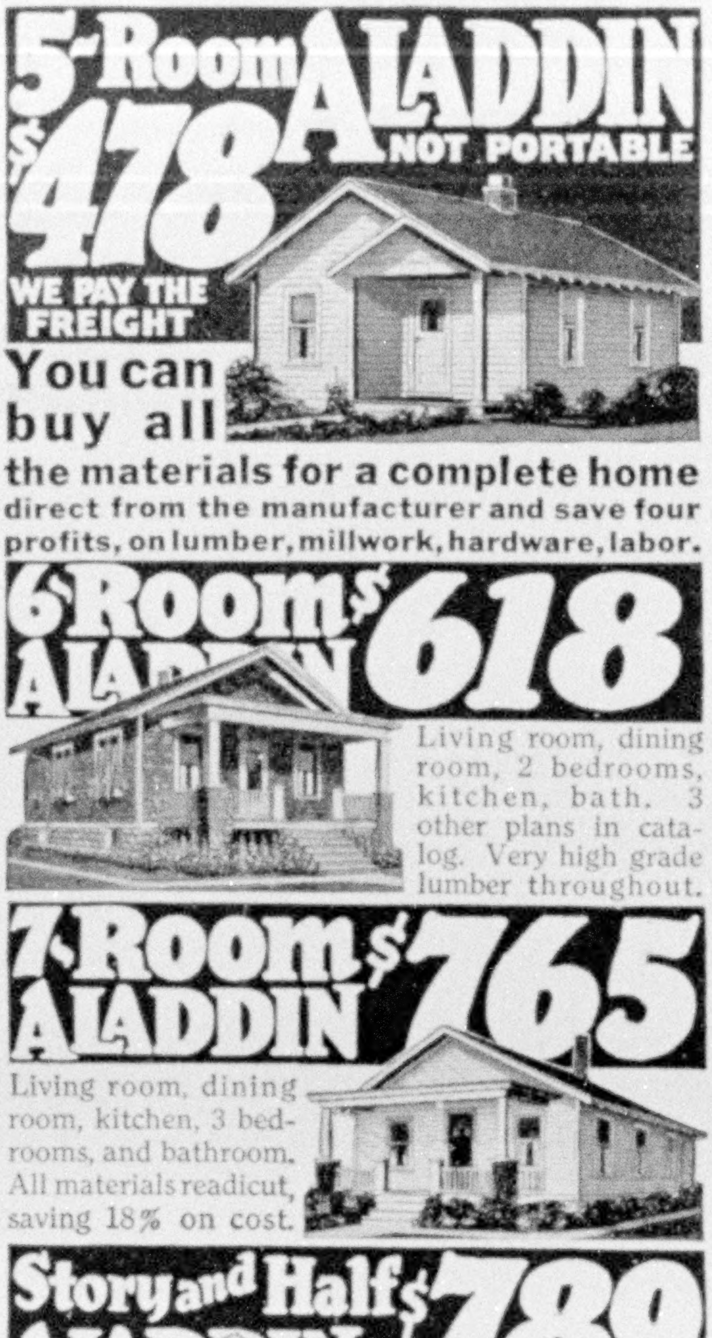

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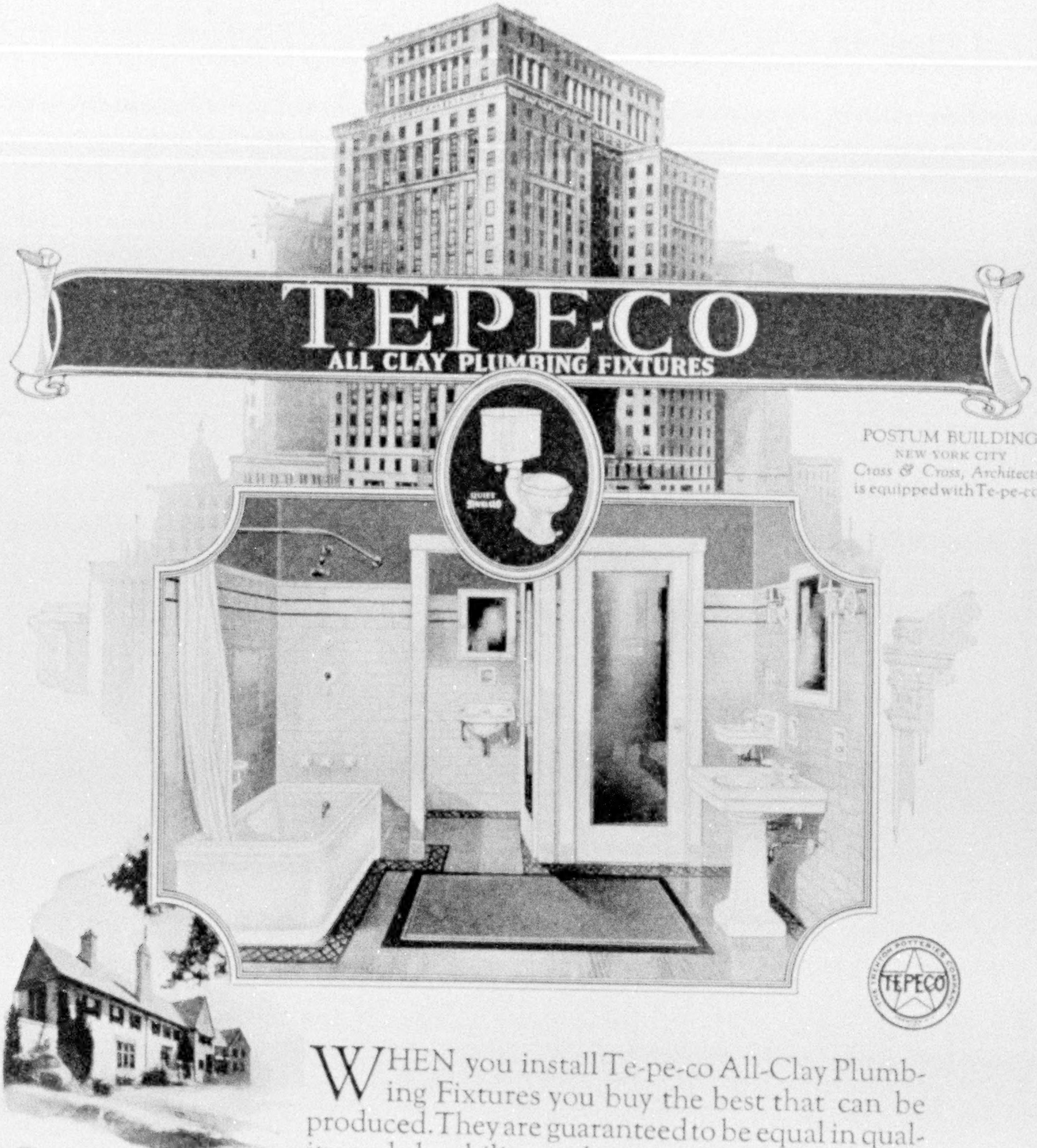

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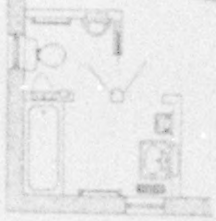

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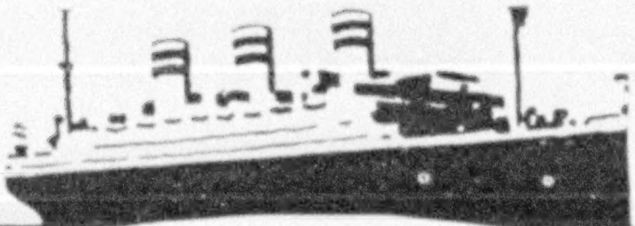

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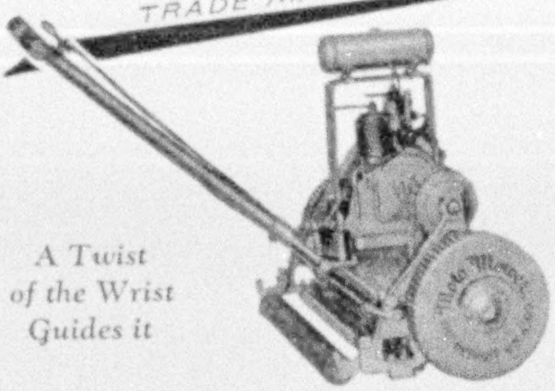

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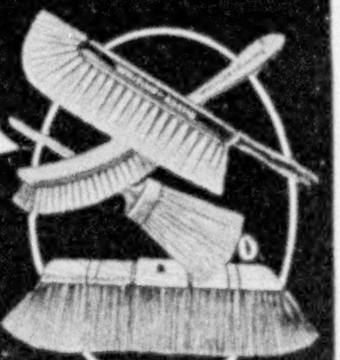

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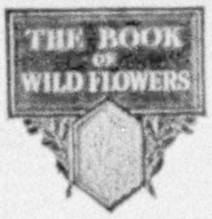

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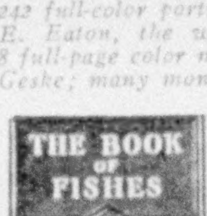

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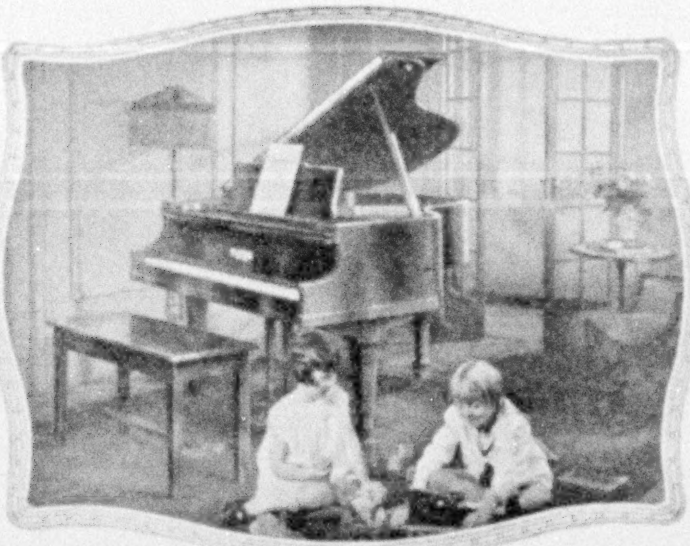

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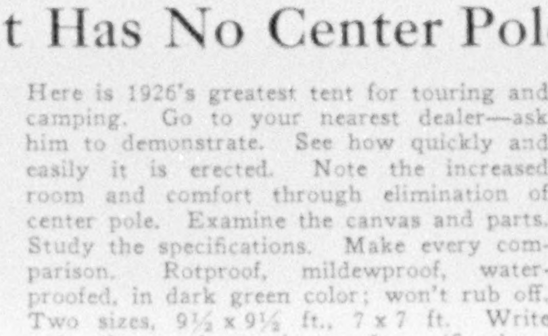

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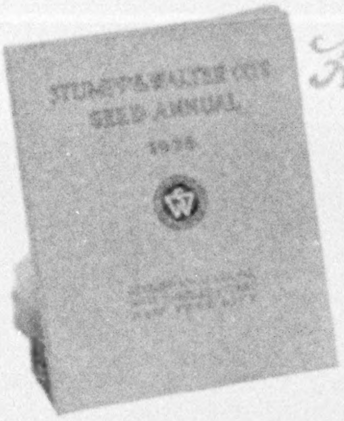

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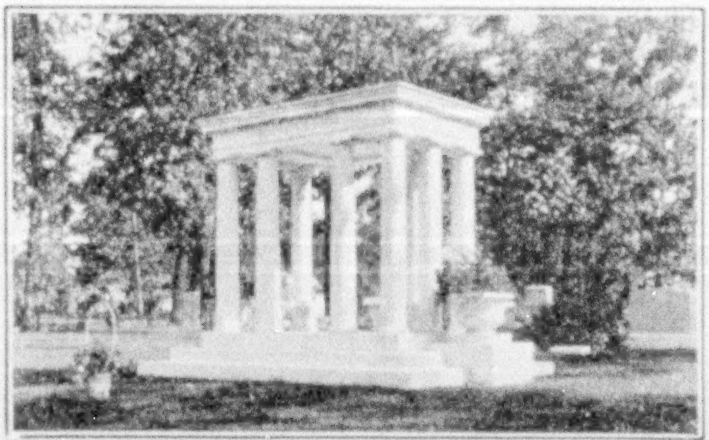

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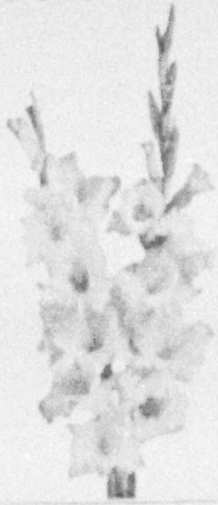

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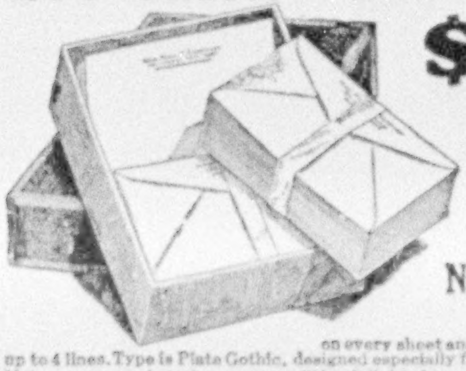

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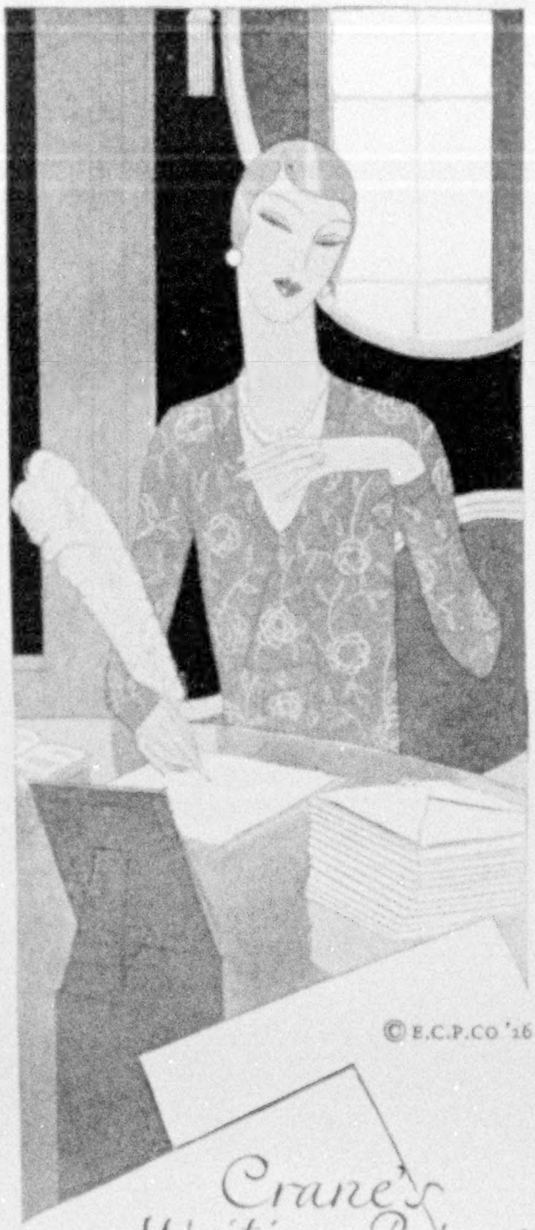

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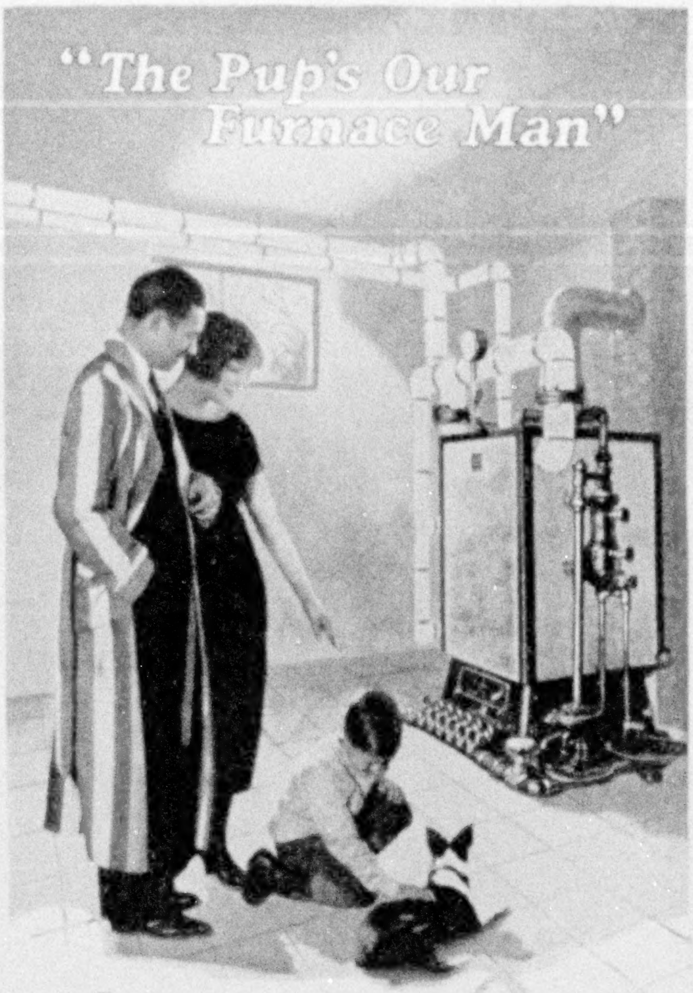
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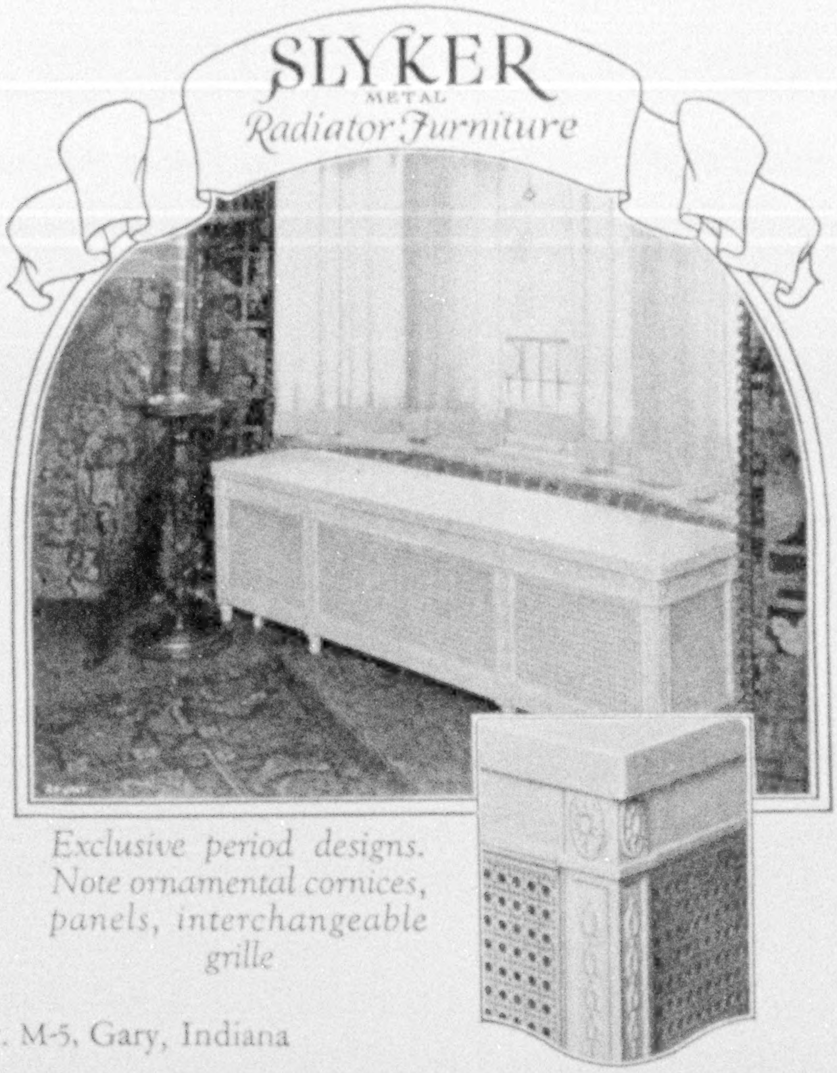

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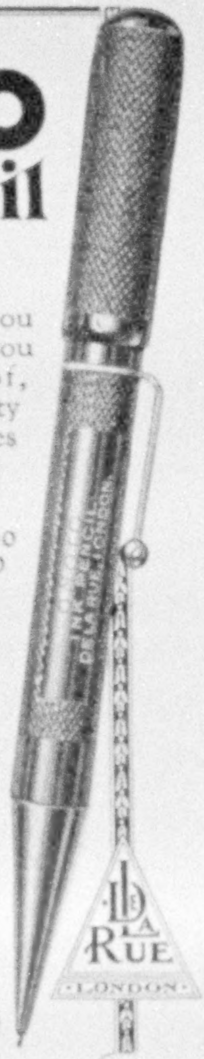

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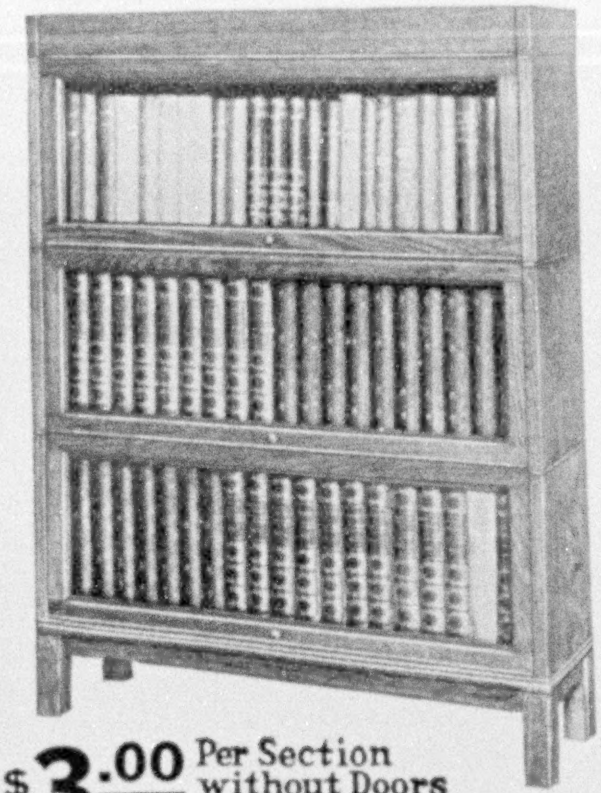

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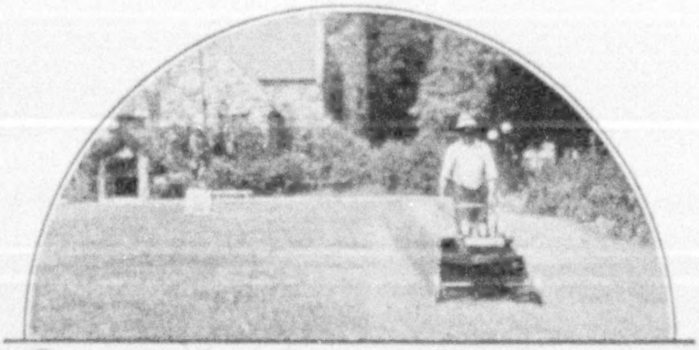

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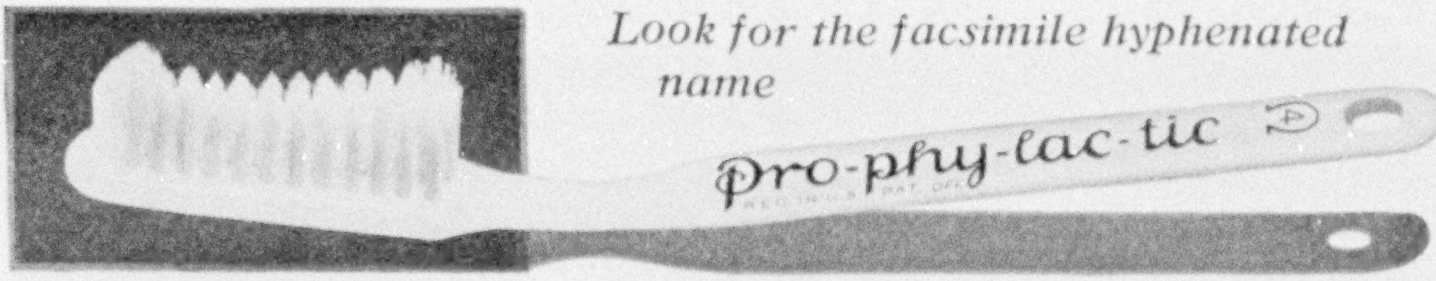

Whatever Your Question;—be it the pronunciation of **Fascista**, the spelling of a puzzling word, the location of **Esthonia** the meaning of **soviet, realtor, vitamin, etc.,** this **Supreme Authority**—

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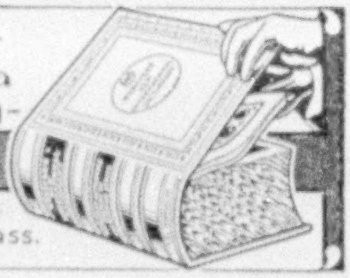

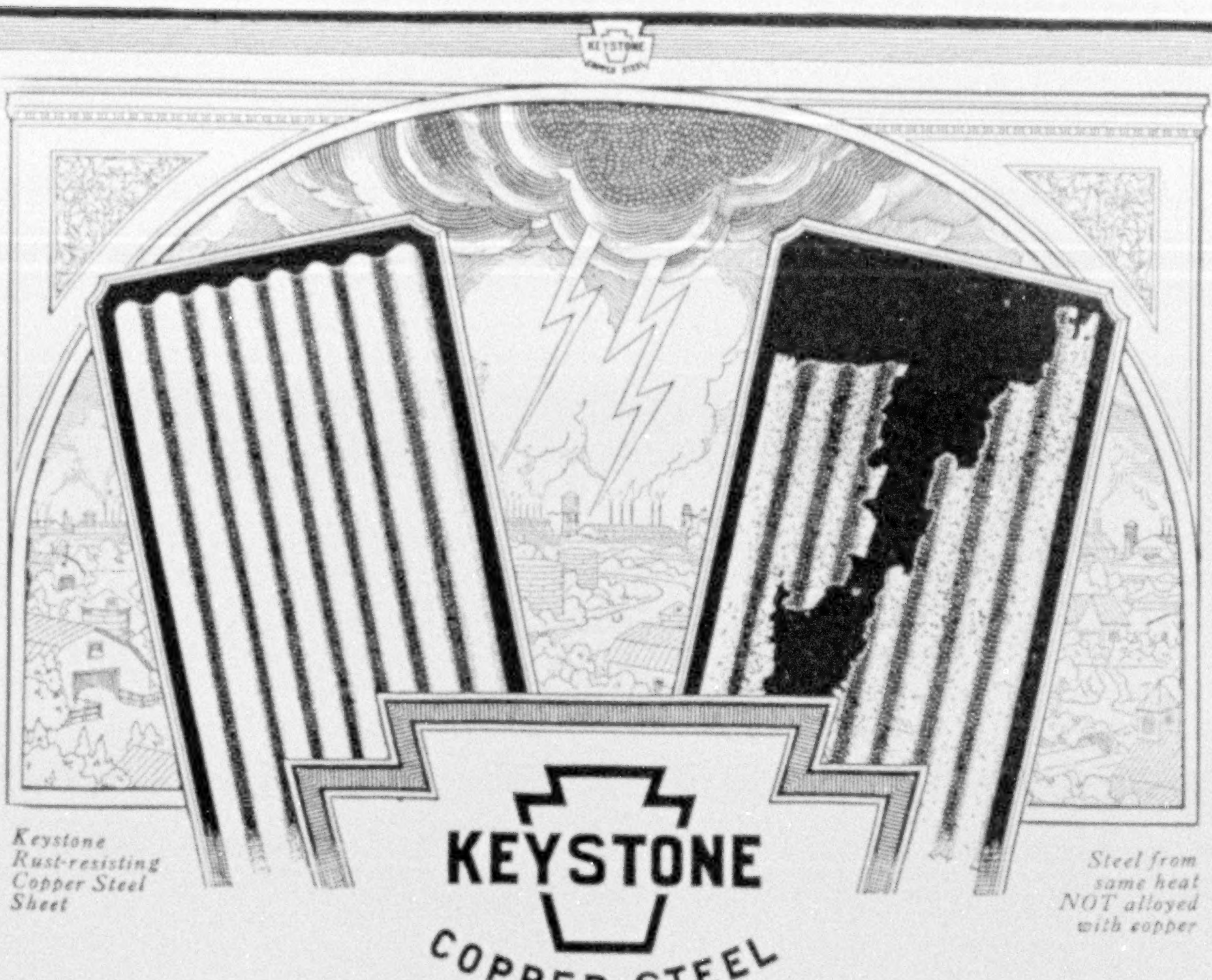

Keystone
Rust-resisting
Copper Steel
Sheet

Steel from
same heat
NOT alloyed
with copper

THE destructive enemy of sheet metal is *rust.* It is successfully combated by the use of protective coatings, or by scientific alloying to check and retard its progress. It has been definitely proved that an alloy of copper makes steel sheets and tin plates last longer—very much longer.

KEYSTONE

Rust-resisting Copper Steel

is the most enduring material that can be used for the manufacture of Black and Galvanized Sheets and Roofing Tin Plates. The two sheets pictured above were exposed to the weather for the same length of time. These sheets were identical in manufacture—the same gauge and from the same heat—the only difference being the alloy of copper. Keystone is the *original* Copper Steel, and is better because it has been carefully developed over years of time. Its every improvement has been the result of extended study and research. Send for *Facts* booklet containing information of interest to you.

For building construction, roofing, siding, gutters, spouting, metal lath, sheet metal work—and for culverts, tanks, flumes, and all uses where rust resistance is important, it pays to insist upon Keystone quality. Sold by leading metal merchants.

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Black Sheets for all purposes, Apollo and Apollo-Keystone Copper Steel Galvanized Sheets, Culvert and Tank Stock, Formed Roofing and Siding Products, Special Sheets for Stamping, Automobile Sheets, Electrical Sheets, Stove and Range Sheets, Barrel and Keg Stock, etc.

KEYSTONE
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Manufactured by AMERICAN SHEET AND TIN PLATE COMPANY, *Pittsburgh, Pa.*

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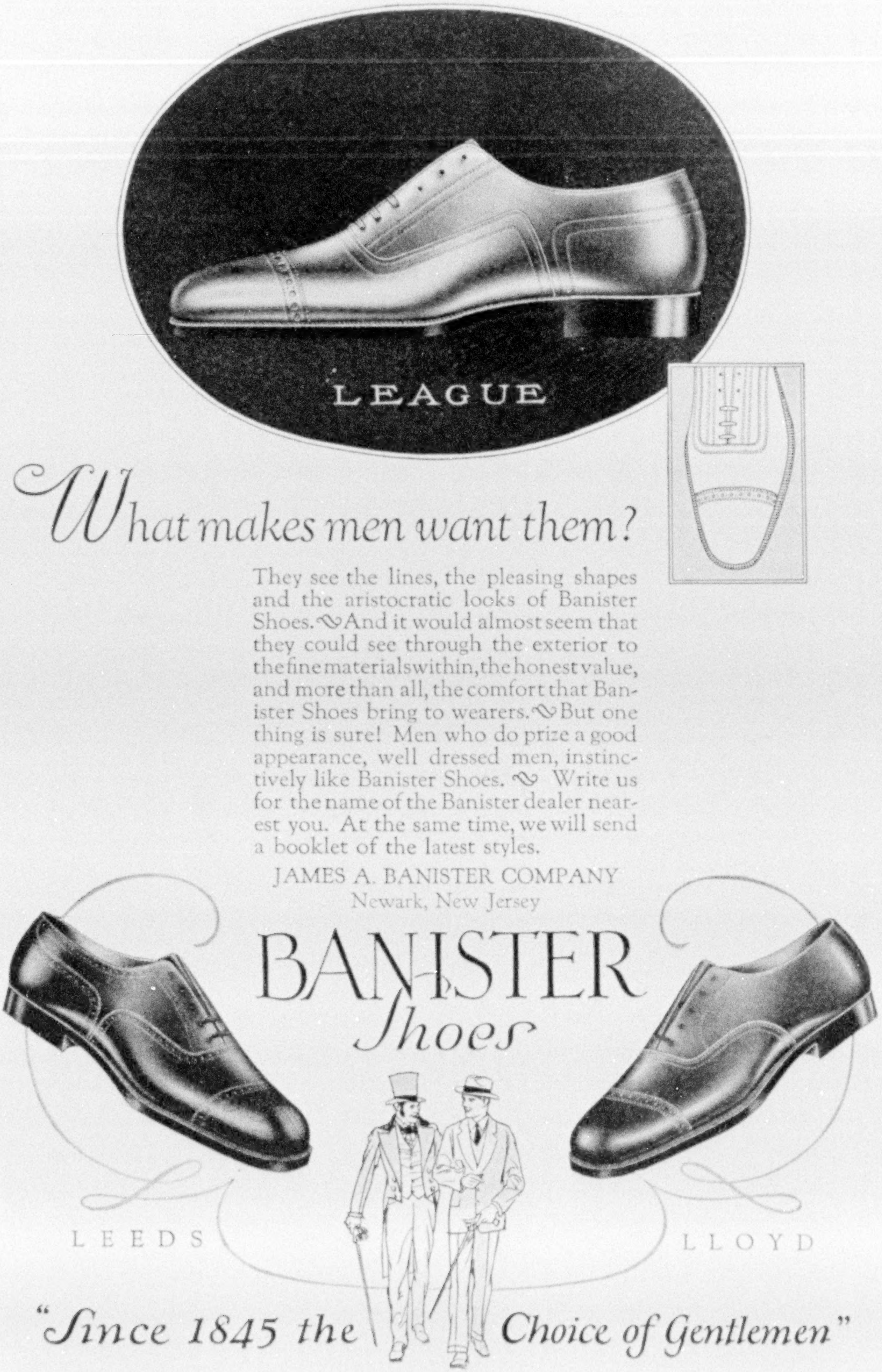


LEAGUE

What makes men want them?

They see the lines, the pleasing shapes and the aristocratic looks of Banister Shoes. ∾ And it would almost seem that they could see through the exterior to the fine materials within, the honest value, and more than all, the comfort that Banister Shoes bring to wearers. ∾ But one thing is sure! Men who do prize a good appearance, well dressed men, instinctively like Banister Shoes. ∾ Write us for the name of the Banister dealer nearest you. At the same time, we will send a booklet of the latest styles.

JAMES A. BANISTER COMPANY
Newark, New Jersey

BANISTER
Shoes

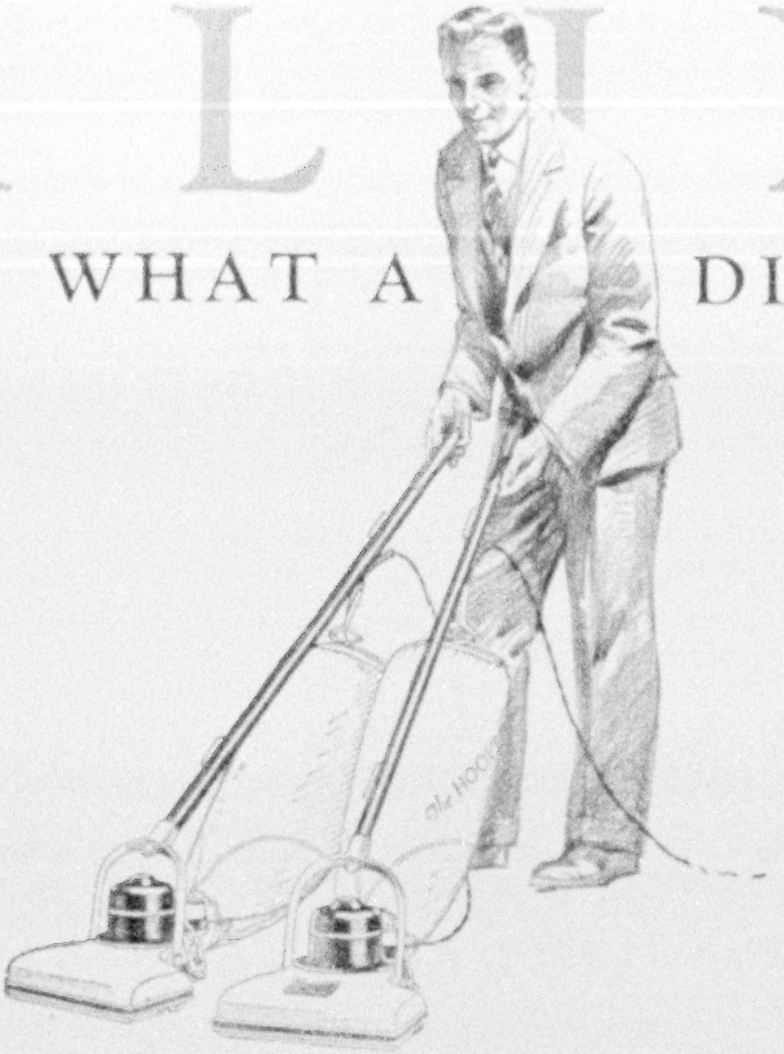
LEEDS

LLOYD

"Since 1845 the Choice of Gentlemen"

ALIKE

BUT WHAT A DIFFERENCE!



Here are two Hoovers—alike in every way but one. Yet what a difference there is between them!

One has the *patented beating-sweeping brush.* From the other the brush has been removed.

Without this brush The Hoover would cost much less to make, and you could buy it for less.

But after you have proved that rugs *must be beaten* to be thoroughly clean*. . . would you be willing to sacrifice cleanliness for the few dollars you might save?

Gently but thoroughly, the Hoover beating-sweeping brush *taps loose* and vibrates to the surface the heavy sharp-edged dirt which cuts rug nap if permitted to remain embedded.

Because it *does* keep rugs perfectly clean The Hoover is guaranteed to make them wear many years longer.

As it *Beats,* The Hoover *Sweeps,* gathering up even the stubbornest clinging litter and hair. And it *Air-cleans,* too.

But, unlike vacuum cleaners, it employs air *only to remove what air has deposited*—the light surface dust on rugs and furnishings—and to suction into the bag the *heavy,* gritty dirt and litter that have been *beaten out and swept up.*

Remove the beating-sweeping brush from The Hoover and it becomes an ordinary vacuum cleaner. Replace the brush, and The Hoover is at once *distinct. There is only one Hoover!*

Is it surprising that there are more Hoovers in use today than any other make of cleaner? No! But it *is* significant!

It pays to know the difference between a Hoover and a vacuum cleaner. Any Authorized Hoover Dealer will show you. And he will deliver The Hoover, *complete,* for only $6.25 *down.*

*TO PROVE RUGS NEED BEATING: Turn over a corner of a rug; with the handle of an ordinary table-knife, or something of equal weight, give the under or warp side 15 to 25 sharp *taps* and watch the dirt dance out from the nap depths onto a piece of paper. Feel the destructive character of this grit. This is the dirt your present cleaning methods have missed, *and that beating has dislodged.* Correct use of The Hoover causes this embedded dirt to be *vibrated* to the surface by the rapid, gentle *beating* of the Hoover brush, as powerful suction *lifts* the rug from the floor and draws all the beaten-out, swept-up dirt into the dust-tight bag

The HOOVER

It BEATS ... as it Sweeps as it Cleans

THE HOOVER COMPANY, NORTH CANTON, OHIO
The oldest and largest maker of electric cleaners · The Hoover is also made in Canada, at Hamilton, Ontario

PRESS OF JUDD & DETWEILER, INC
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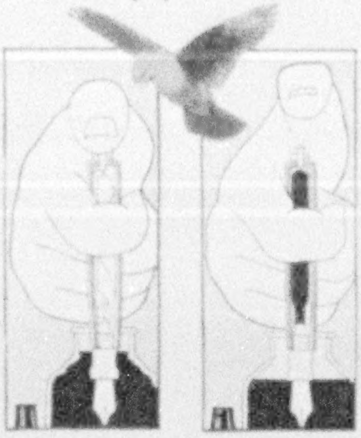
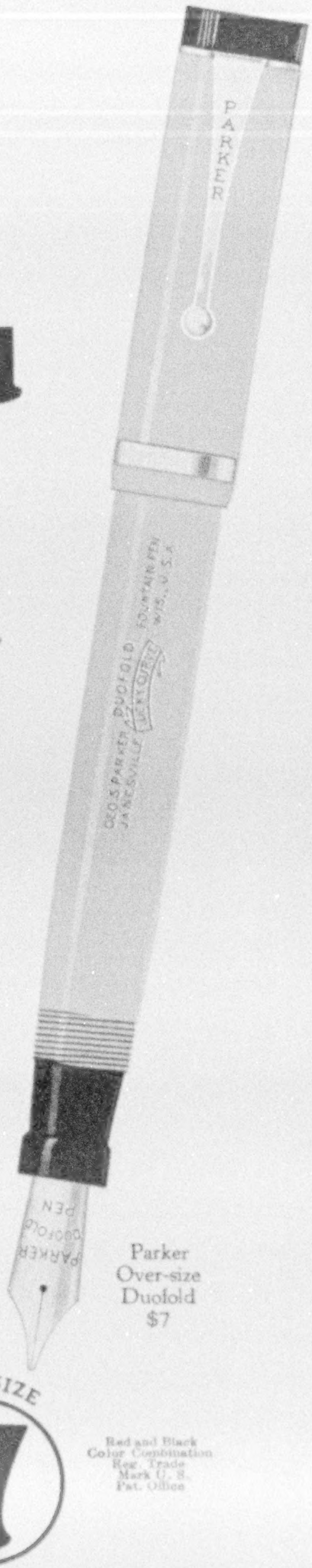
Rivals the beauty of the Scarlet Tanager



Parker Duofold takes longer to fill because of its Over-size ink capacity. Immerse Point in ink, press button and release—

Pen now starts to fill. Count 10 before you withdraw it from the ink so it can fill completely.



Parker
Over-size
Duofold
$7

Black-tipped Lacquer-red

—the color Men Choose when they buy their own Pens

Handsome to carry—Hard to mislay

Ladies, please take note:

IT'S a great deal easier to select a pen for a man than, for instance, a necktie. For men's ideas in neckwear are vastly dissimilar, but in pens their choice is almost unanimous.

Note what the great majority carries—the Black-tipped Lacquer-red—the Parker Duofold trade-mark color combination that makes this pen hard to mislay.

Of course the 25-year smooth-gliding point also has much to do with men's preference for the Parker Duofold. Likewise the manly Hand-size Grip, Over-size Ink Capacity, Free-Swinging Balance, and Invisible Filler—out of harm's way.

Whatever it is that men most prize in the Parker, of one thing the ladies may be sure—Black-tipped Lacquer-red is a man's own choice of color, just as Parker Duofold is his choice of pens. Good pen counters wouldn't be without it—stop at the nearest.

THE PARKER PEN COMPANY, JANESVILLE, WIS.

Parker Duofold Pencils to match the Pens
Lady Duofold, $3; Over-size Jr., $3.50; "Big Brother" Over-size, $4

Parker
LUCKY CURVE
Duofold
With The 25 Year Point

OVER-SIZE
$7

Duofold Jr. $5
Intermediate size

Lady Duofold $5
With ring for chatelaine

Red and Black
Color Combination
Reg. Trade
Mark U. S.
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